Λ - Model for Physical Systems in Nature: *Matagouri 27nov2018*

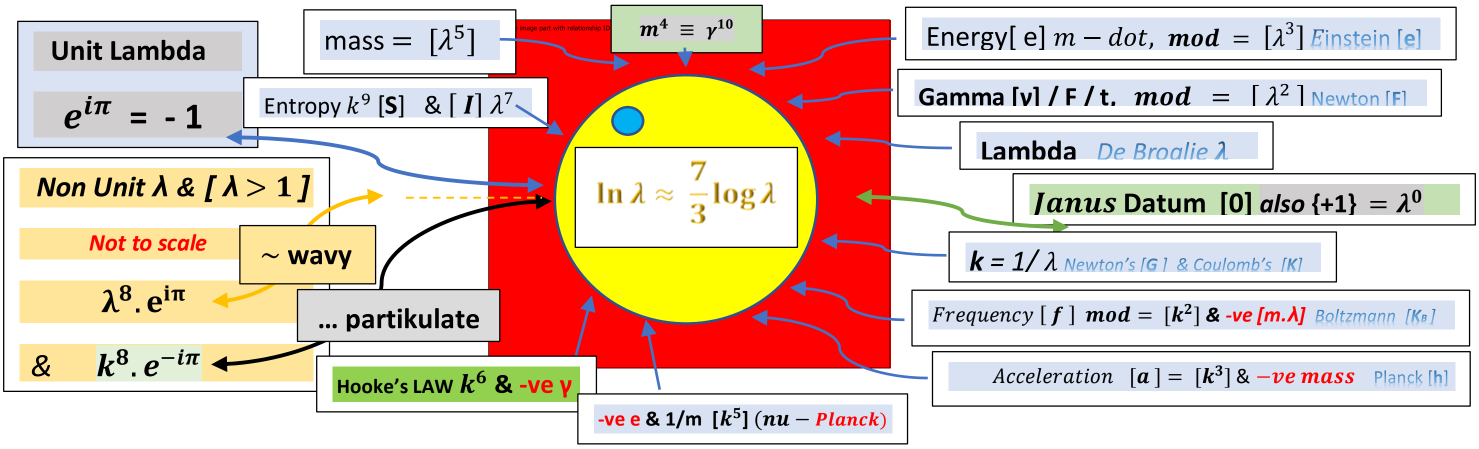


Fig. 1 Model lambda $[\ \lambda\ .\ e\hat{}\ \frac{i\pi}{8}\ ]^{\ n}$ $[\ \lambda s\ \neq 0\ ]*$ is a *spinning number* rotating with **+ve** &/*or* **-ve** $[\boldsymbol{n}]$ integer

From ***Janus* datum** [*0*] at (**n = *0***) *r.h.s.*, thus $\left[\ \lambda . e^{\left[\frac{i\pi}{8}\right]}\ \right]^{0} = [\lambda^0 . e^0] = [1.1] = 1^2 = \boldsymbol{Unity\ modulus},$

to { **n** → ∞}? *capped here at* (**n = (+/-) 16**) becomes $\boldsymbol{\lambda^{16} . e^{i2\pi}}$ or modulus $[\lambda^{16}]$ ***x*** [**1** complete **[a.c.w]** revolution].

The **-ve** integers contribute *simultaneously* one suspects? a *clockwise* **[cw]** revolution

from datum unity, to [$\boldsymbol{\lambda^{-16} . e^{i(-2\pi)}}$] These *contraries* are seamlessly connected at Unity or zero peg above,

and resonate with $\boldsymbol{+ve\ \&\ -ve\ 'arrows\ of\ time'}$ in Physik.

This quasi *continuum locus* looks like an integer **quantized** , or step indexed *Logarithmic spiral x* [2].

$\boldsymbol{Eadem\ mutata\ resurgo}$.

As the Lambda model is **scale invariant**, the ***Einstein continuum*** *is preserved in principle,* yet each lambda system has its own chunked ***De Moivre*** type, & displays integer based **Bohr** *model* characteristic.

Thus we can view the classic **Eule**r identity $\boldsymbol{e^{i\pi} + 1 = 0}$ in model terms as, $\boldsymbol{\lambda^8 . e^{i\pi} = -ve\ 1}$

where *'unit' lambda applies.*

The negative Unity is thus equivalent to model $[\boldsymbol{m.m - dot}]$ = $\boldsymbol{mass\ x\ energy}$ product. $[\ \boldsymbol{m - dot} \equiv [\boldsymbol{dm/dt}] \equiv \boldsymbol{m/\gamma}\ ]$

& [$\boldsymbol{k^8 . e^{-i\pi}}$] in clockwise sense, again for a <u>unity</u> lambda scenario only.

$$System[\boldsymbol{k}] = \frac{1}{\lambda}\ \ or\ generally\ \ \boldsymbol{\lambda^{-n}} = [\boldsymbol{k^n}].$$

$$Example\ (\boldsymbol{n} = 16\ )\ thus\ [\ \boldsymbol{\lambda^{16} . e^{i2\pi}}\ ], has\ an\ equivalent\ in\ system\ parameters\ of\ [\boldsymbol{m^3 . \lambda}]s\ =\ lambda^{\boldsymbol{16}}$$

i.e. as 1 {element} *highest order* **[16]**, general degree **[n]** of *truncated* string polynomial system here.

Rearranged as $\boldsymbol{e^{i2\pi} . \lambda^{16} - m^3 \lambda = 0}$ *has* $\boldsymbol{16\ complex\ root\ solutions}$, *i.e. generic root* $[\boldsymbol{\lambda .\ e^{\frac{i\pi}{8}}}\ ]$

& generally scaling via *system lambda* & exponent **[n = +/- {0,1,2,3…}]** applies all *pegs of the wheel* above.

This *physical** model $[\boldsymbol{\lambda s} \neq \boldsymbol{0}\ ]$ allows also for **-ve** integers as discussed, to illustrate dynamic **equilibrium** *forces* at work in *a 'closed' & yet evolving** balanced Lambda system. i.e. potentially a *duplex set* [16 **x 2**] of ***contemporaneously acting +ve & -ve integer cycles, counter phase & respectively*** [$\boldsymbol{\lambda^n}$ & $\boldsymbol{k^n}$] *defines the model*

$\boldsymbol{\lambda - scheme\ in\ Nature}$.

The Veritas identity & System Omega in the Physikle Λ-model.

System Omega $\omega = \left[\frac{k}{m}\right]$ **appears quite generally in Nature's Laws & familiar Physics identities & relationships.**

Thus we introduce a new lambda model version of System omega $[\omega]s$,
& respectfully suggest 'omega' may be masked historically through variant essentially classical expressions, yet can be discovered anew via 'trial by Algebra'.

First we introduce a Platonik identity invented, discovered, or imagined by the Author and known as

the Veritas *equation*, given here.

$$1. \quad h - dd\,.\,\lambda \quad = \quad h\,.\,\lambda - dd$$

$$\mathbf{1.}\,\boldsymbol{a} \qquad \frac{h - dd\,.\,\lambda}{h\,.\,\lambda - dd} = 1$$

$[-\boldsymbol{dd}]$ ***means 'double' − dot or*** $\frac{\boldsymbol{d^2}}{\boldsymbol{dt^2}}$, ***where*** $[-\boldsymbol{dot}]$ ***is likewise*** $\frac{\boldsymbol{d}}{\boldsymbol{dt}}$

Newtonian dot notation is implied, albeit somewhat nuanced in a model parametrik sense, i.e. dots may *flow* freely under action of a system omega, and in this fluid or *fluxions* sense, a standard both-ways *time symmetry* is invoked. What is non-standard is that system time { **t** }**s** and system general force { **F** }**s** are synonymous, or actually *identical* with the system gamma **[γ]s**. A model hypothesis is such that a ***'time is force'*** argument applies. *{ subscript [s] = 'system' as applied in the Lambda model}*
Also system Omega is negative system gamma, or $\boldsymbol{\omega}$ ≡ **-ve** F

$$2.\ \{\boldsymbol{\omega} \ = -\boldsymbol{ve}\boldsymbol{\gamma}\ \}\boldsymbol{s} \qquad \boldsymbol{from} \quad \lambda - dd = \frac{\lambda}{h}\,.\,h - dd \quad \boldsymbol{gives} \quad a = \frac{\omega}{-m}$$

Equation $\mathbf{2.}$ *is in effect* $\boldsymbol{N.3.L.}$ & ***Hooke's Law*** $[\boldsymbol{F} = -\boldsymbol{kx}]$, *or* $\boldsymbol{Fs} = \{-\boldsymbol{ve\lambda}\,.\,\boldsymbol{\lambda}\}\boldsymbol{s}$

in this model, $\quad \mathbf{2.}\boldsymbol{a}. \quad [\boldsymbol{\omega}]\boldsymbol{s} = -\boldsymbol{ve}\,\{\boldsymbol{t}\}\boldsymbol{s}$ *also.*

We introduce ***System Omega***: $\quad \mathbf{3.} \quad \left[\ \omega = \frac{mm}{\gamma^8}\ \right]s \quad = [\boldsymbol{\gamma}^{-3}]\boldsymbol{s}$ *also, & or equivalently we can get*

$$\mathbf{3.}\boldsymbol{a} \qquad \left[\boldsymbol{\omega} = \frac{\boldsymbol{k}}{\boldsymbol{m}}\right]\boldsymbol{s}$$

this is the simple version, and reflects a '***wave − partikle***' ***mutuality*** *in this model.*

Where $[\boldsymbol{k}]\boldsymbol{s}$ *is the wave number of the system, classically* $\left[\boldsymbol{k} = \frac{\mathbf{1}}{\lambda}\right]\boldsymbol{s}$, *thus*

$$\mathbf{3.}\boldsymbol{b} \qquad \boldsymbol{\omega m \lambda} = \mathbf{1}$$

& *a model* ***de Broglie*** *expression can be inferred*

$$\mathbf{4} \qquad \boldsymbol{\lambda} = \boldsymbol{\omega m \gamma}$$

Where subscript $[\boldsymbol{s}]$ *is generally implied going forward e.g.* ∗ *system lambda* $[\lambda] = [\lambda]s$

note: system gamma = system lambda squared, in modulus sense & a literal expression of $\boldsymbol{K.2.L.}$ ***Area ≡ time***.

$$\mathbf{5.} \quad [\gamma] = [\boldsymbol{\lambda}^2]$$

and from $\mathbf{3.}$ *above* $[\boldsymbol{mm}]$ *must be* $\boldsymbol{\gamma}^5$

or we get system mass $[\boldsymbol{m}]\boldsymbol{s}$

$$\mathbf{6.}\ [\boldsymbol{m}] = [\lambda^5]$$

We can see from previous identities that all parameters can be expressed in lambda or $[k]$*numbers of any physical* $*$ *system under inspection.*

*In partikular 'Geometry reigns' & Keplerian '**time shells**' act forcefully (i.e. conservative* $[-\boldsymbol{veF}]$*),*

*as concentric laminae **orthonormal** to* $[\boldsymbol{x}, \boldsymbol{y}.\boldsymbol{z}]$ *dimensions, of a Gaussian style mass distribution scheme* $\sum \boldsymbol{\rho}.\boldsymbol{dV}$

By physical $*$ *we mean,* $\boldsymbol{\lambda s \neq 0}$, *which implies also,* $\boldsymbol{m \neq 0}$

Obviously the $\boldsymbol{k}$ *– number is the reciprocal lambda number, etc, or classically*

$$\boldsymbol{k^n = \frac{1}{\lambda^n}}$$

So if lambda cubed (classically a volume $\boldsymbol{V}$*) yields energy,*

$$\text{we may call this } \boldsymbol{m - dot} \equiv \left[\frac{\boldsymbol{dm}}{\boldsymbol{dt}}\right] = \frac{\boldsymbol{m}}{\boldsymbol{\gamma}}$$

The reciprocal $\boldsymbol{k}$ *– number scenario would be inverse volume or* $\boldsymbol{k^3}$*, and we call that **acceleration***

$$or, \quad \frac{\boldsymbol{d^2\lambda}}{\boldsymbol{dt^2}} = \boldsymbol{lambda - dd} = \boldsymbol{acceleration}\,[\boldsymbol{a}] = \boldsymbol{k^3} = \boldsymbol{k - dot} = [\boldsymbol{k}/\boldsymbol{\gamma}]$$

*All identical we call this the **gravity pixel** in the lambda model,*

And further add that $[\boldsymbol{a}]$ is <u>*identica*</u>l with ***negative mass***, or

$$[\boldsymbol{a}] \equiv \boldsymbol{-ve\,m} = \boldsymbol{m - dddd} = \boldsymbol{m}-'4\ dots' = \frac{\boldsymbol{m}}{\boldsymbol{\gamma^4}} \equiv \frac{\boldsymbol{d^4[m]}}{\boldsymbol{dt^4}}$$

$$\textbf{The negative operator is } \frac{\boldsymbol{1}}{\boldsymbol{gamma^4}} \textbf{ and adds a ½ cycle clockwise rotation in the model}$$

w.r.t horizontal, the standard r.h.s. datum $*$ *on a unit lambda complex wheel*

Thus 2 negative operators in tandem gives 1 full c.w. rotation.

In essence system 'inertial mass' lies on λ^5 *a.c.w. & – ve mass lies on lambda*$^{-3}$ *c.w. phase sense* $*$.

Mass having being divided by lambda^8 *here, as gamma* $\equiv$ *lambda*^{2}*, stated previously.*

The model views inertial mass as Action, and – ve mass as reaction or – ve action.

$$Or, \quad \boldsymbol{Action} \quad \textbf{7.} \quad \boldsymbol{\gamma.m - dot = m,}$$

$$\& \quad \boldsymbol{-ve\ Action} \quad \textbf{8} \quad \boldsymbol{-ve[\gamma.m - dot] = -ve\,m}$$

$$can\ be \quad \boldsymbol{8.a} \quad \boldsymbol{-ve\ mass} = [\ \{\boldsymbol{-ve\ gamma\ .\ energy}\} \leftarrow (+) \rightarrow \{\boldsymbol{gamma\ .\ -ve\ energy}\}\ ]$$

[2]states in omegik superposition

$$We\ note\ here\ that\ -ve\ energy\ is \left[\frac{lambda^3}{gamma^4}\right] = \left[\frac{\lambda^3}{\lambda^8}\right] = \frac{1}{\lambda^5} = k^5 = \frac{1}{m}\ reciprocal\ mass.$$

$$Which\ supplies\ a\ useful\ model\ standard\ utilising\ [-ve\ m - dot] = \frac{1}{m}\ \ thus\ a\ variant\ model\ gamma, in$$

$$\textbf{9.} \quad -ve\ [\,m\ .\ m - dot\,] = 1$$

and equivalent to

$$Unity = [\,\{-ve\ mass.energy\}\,] \leftrightarrow (+) \leftrightarrow [-ve\ energy.mass]\,]$$

[2] states convergent at r.h.s. datum peg $[\lambda s^0 = \boldsymbol{+ve}1]$*, on Unity model complex wheel.*

$With\ a\ little\ work\ most\ if\ not\ all\ of\ the\ previous\ identities\ can\ be\ morphed\ into\ \&\ flow\ thro\ each\ other,$

$and\ we\ quote\ some\ model\ standards\ with\ resonance\ to\ classical\ familiars.$

$from\ previous\ view\ w.r.t\ \ Action\ =\ m, \quad -ve\ Action\ =\ -ve\ m\ \ =\ Reaction\ \equiv\ [a] \sim gravity$

$The\ product\ \ [\ action\ x\ reation\ ]\ yields\ the\ Gamma\ 'force'\ or\ N.2.L.\ \&\ U.L.G.$

$$10. \quad \gamma\ =\ -m.m \quad or \quad [\,m.-vem] \quad \equiv \quad F = ma$$

$\&\ with\ the\ \ -ve\ \mathbf{Operator}\ appled\ to\ \mathbf{10}.we\ \ get\ omega$

$$11. \quad \omega\ =\ -ve\,.-ve[m.m]$$

$$11.a \quad \omega \quad = \ [\ \{--m\,.\ m\} \leftarrow (+) \rightarrow \{-m\,.\ -m\} \leftarrow (+) \rightarrow \{m\,.-\ -m\}\ ] \qquad [3] - states$$

$$as\ \ acc\ =\ -ve\ mass\ \ then, \qquad -ve\ a\ \equiv\ -ve\,.-ve\ mass$$

$$-ve\ a\ \ =\ \ \left[\frac{m}{\gamma^8}\right]\ =\ \frac{\lambda^5}{\lambda^{16}}\ =\frac{1}{\lambda^{11}}\ \ =\ k^{11}\ \ [\mathrm{c.w}]\ \text{phase rotation}$$

$$now\ \ k^{11}\ \ =\ \ S - dot\ \ =\ \ \frac{S}{\gamma}\ \ \equiv\ \ \frac{dS}{dt} \quad i.e.\ \ entropy - rate$$

$$thus\ \ entropy\ \ [S]\ =\ k^9 \quad \&\ also, [c.w]\ sense$$

$Thus\ we\ can\ produce\ another\ model\ omega\ expression$

$$11.b \qquad \omega \quad = \quad -ve\,.-ve\ [m.m]$$

$$thus \quad 11.c \qquad \omega\ =\ [mS] - dot$$

$\&\ expanded\ to$

$$\omega \quad = \quad \{ \quad [\ m - dot\ .\ S\ ] \leftrightarrow (+) \leftrightarrow \quad [\ m\ .\ S - dot\ ] \quad \}$$

$$System\ Omega\ \ =\ \ [\ \{\,energy\ x\ entropy\,\}\ \leftrightarrow (+) \leftrightarrow\ \{\,mass\ \ x\ \ entropy\ rate\,\}\ ]$$

$this\ last\ \ offers\ \ aid\ for\ darkness\ paradigms\ currently\ in\ vogue\ in\ Physik.$

$The\ model\ views\ energy\ in\ the\ classical\ way, say\ in\ conventional$

$Newtonian, Hamiltonian\ or\ Lagrangian\ sense, i.e.$

$these\ express\ any\ \ dynamic\ system\ of\ kinetic\ \&\ potential\ energy\ states\ in\ mutual\ fluxion/s.$

$This\ is\ composite\ or\ lumped\ \ together\ energy\ \ \ m - dot\ in\ a\ general\ model\ sense,$

$where\ the\ [-dot]operator\ is\ frequency, \qquad f\ = 1/t$

$thus\ the\ model\ contends,$

$$12. \quad [\,\lambda - dot\,]^2\ \ =\ \ [\,\lambda\,.\ \lambda - dd\,]\ \ is\ likewise\ a\ frequency\ or\ [\frac{1}{\gamma}]expression.$$

as *lambda-dot is a k-number*, this is classically a velocity expression

Where $\lambda - dot\ =\ \left[\frac{\lambda}{\gamma}\right]\ =\ \left[\frac{dx}{dt}\right]\ =\ v,\ \ as\ lambda\ can\ be\ \{x\}\ of\ course.$

So we may readily derive justification in 12. for *Fitzgerald - Lorentzian* effects, such as length contraction etc,

A model maxim is developed.

A terrible beauty is born

Large Lambda schemes have low magnitude $[k]$ – numbers, and thus very small acceleration number.

Conversely very small lambda schemes have large magnitude

$[k]$ – number & thus very large acceleration … 'gravity'.

We can further add

Large schemes possess low magnitude entropy $[S]$ & very low entropy rate $[S]$ – dot, respectively.

Conversely large magnitude $[S]$ & even higher $\left[\frac{dS}{dt}\right]$ are experienced in micro – lambda schemes.

A fearful symmetry

seems apparent at Cosmological & quantum scales in Nature.

Contrari – wise Enantiomorphik System. *See figs 2 & 3 p. 6*

This maxim is counter to the standard view that the twain never meets in Quantum & Classically relativistic models, thus an 'idee fixee' developed. Science must! find a holy grail solution such as 'quantum gravity' to fix the disparity*.

The 'dichotomy' is potentially a phenomenological perspective only, largely historical in basis, & erroneous one might suspect.

Local System Model

**** $[h \equiv a]$ dispels this thro equality alone of course, yielding a literal quantized gravity.***

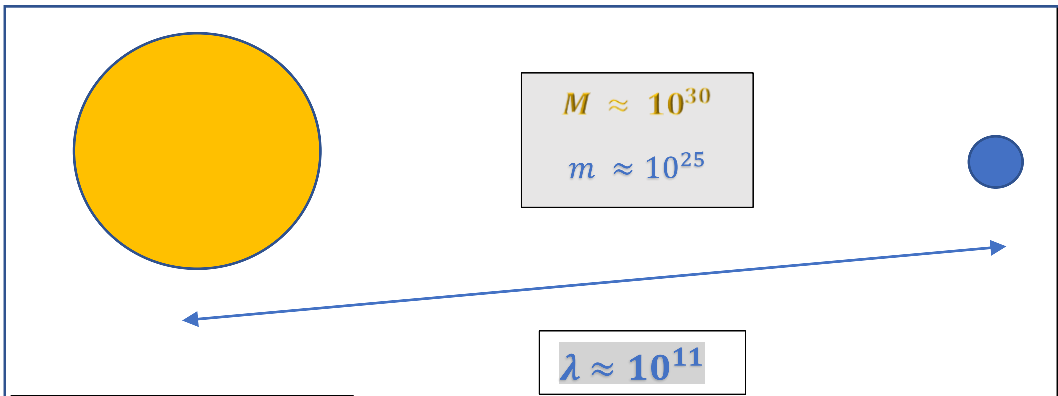
Physical lambda model adherents maintain that it is mistaken to mean fundamentally different physics, ' awaiting unification' is at work in the realms of the very small & very large .

In the λ – model, scale is invariant and model Physik rules are quite general, regardless of size, for any particular scheme/s under investigation.

Model statement: There are no Universal constants, rather there are **multiple sets* of potentially 'unique' system numbers

In multiple lambda schemes, which operate under Universal laws.

Model antidote for * multiverse paradigm.



$[\gamma]s \approx 10^{22}$

$e \approx 10^{33}$

$a \approx 10^{-33}$

$\omega \approx 10^{-66}$

$I \approx 10^{77}$

$K \approx 10^{-77}$

$\frac{dS}{dt} \approx 10^{-121}$

Fig 2. Local binary system

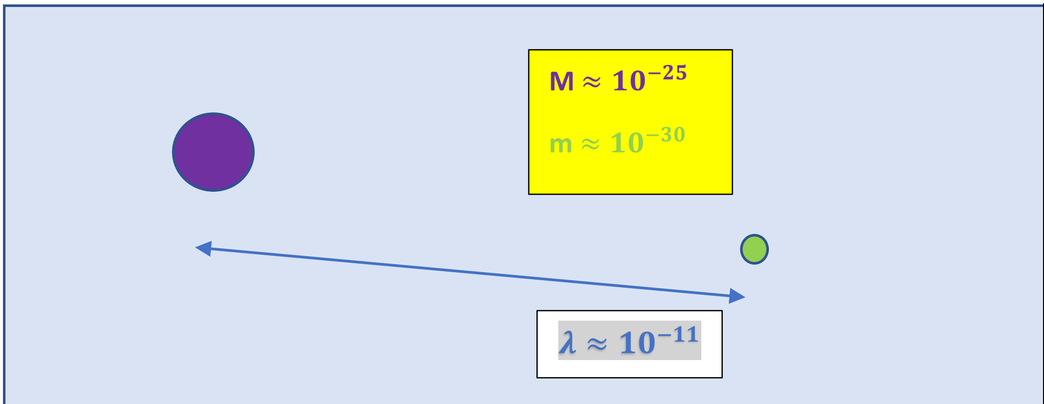


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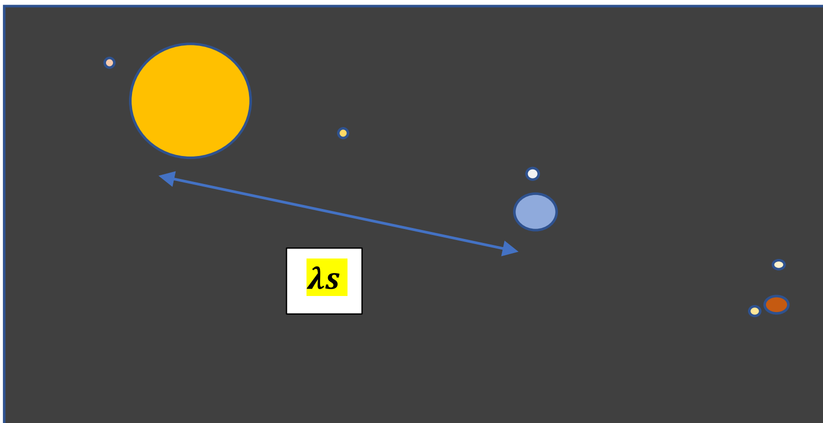
Fig. 3 Model Proto-Atomik system



Maxwell Faraday

$$-\frac{dB}{dt} = \nabla X E$$

Model equivalence with

$$-ve\ \frac{dS}{dt} = -ve\ kE \equiv -ve\ \frac{k}{mm}$$

or 'cancel – ve signs' & rearrange

$$[m.S] - dot \equiv \frac{k}{m} = \omega$$

Fig 4: peg $[k^9]$ $[B]$ *equivalence to* $[S]$ *model view*

$$m = \gamma . e^{\log I} \sim \lambda^5$$

$$\gamma = m.e^{logK} \sim \lambda^2$$

$$gravity\ \ a = e^{logK} \sim \lambda^{-3}$$

$$Energy\ \ e = e^{\log I} \sim \lambda^3$$

$$\therefore\ [a.e] = 1$$

$$i.e.\ -ve[m.m - dot] = Unity$$

$$I = [m.\gamma]\ Moment\ \ of\ Inertia \sim \lambda^7$$

$$K = \frac{1}{I} \approx Hooke's\ Law \sim \lambda^{-7}$$

$$System\ mass\ m = [Mm] \sim \lambda^5$$

$$System\ Gamma\ \gamma = System\ \lambda^2 = F$$

$Let's\ look\ at\ some\ examples$:

$\underline{Keplers\ 3rd\ Law}$

$$\frac{R^3}{T^2} = constant\ [k]$$

$Or\ in\ model\ terms,\quad R = \{r\} = \{x\} = [\lambda]\ or\ system\ lambda, thus$

$$\frac{\lambda^3}{\lambda^4} \equiv \frac{\lambda^3}{\gamma^2} = \frac{energy}{momentum} = \frac{m-dot}{p}$$

$$= \frac{m-dot}{\gamma^2}$$

$$= \frac{m}{\gamma^3}$$

$$= \omega m$$

$\&\ as\ product\ [\omega.mass]\ equates\ to\ a\ system\ [k]-number$

$i.e.\quad wm = k,\qquad Keplers\ costant\ is\ the\ k - no\ of\ our\ local\ 'Binary\ System'\ or\ Newtonian\ G.$

$This\ allows\ us\ to\ gauge\ Solar\ scheme\ Omega\ at\ the\ Earth\ remove.$

$We\ use\ o.o.m.\ calculations\ and\ no\ units, or\ we\ end\ up\ with\ dimensionless\ ratios\ on\ occasion$

$otherwise\ the\ S.I.\ relevant\ unit\ or\ units\ are\ always\ implied.$

$Let\quad M = 10^{30},\ m = 10^{25},$

$\&\ let\ system\ mass\ [m]s = binary\ product\ [Mm],\quad law\ of\ lever\ resonance.$

$and\ as\ the\ de\ Broglie\ yardstick\ is\ \lambda s = 10^{11}$

$Then\ System\ Omega*, gives,\qquad \omega = \frac{k}{m}$

$$= \frac{1}{[m.\lambda]} = \frac{1}{[10^{55}.10^{11}]}$$

$$= 10^{-66}.$$

$And\ as\ Omega = a^2\ then\ our\ local\ system\ acc\ pixel\ -ve\ mass = \surd[10^{-66}]$

$= -ve\ m = [a] = modulus\ circa\ [h]\ the\ Planck\ unit\ of\ Action,$

$we\ see\ it\ as\ -ve\ action\ of\ course.$

Boyle's Law PV = Constant.

Pressure = Force /Area, P = F/A $= [\gamma/\gamma] = \gamma - dot,$ **Volume [V] =** $r^3 = \lambda^3$ **thus [V] = m-dot or energy [e]**

Thus the constant = energy, as $[\gamma - dot].[m - dot] = \left[\frac{1}{\gamma}\right].[\gamma.m - dot] =$

$$[m.f] = \frac{dm}{dt}, = energy\ [e],\ \text{etc}$$

$*\quad [k-dot]^2 = [k.k-dd]\quad is\ equivalent\ to\ system\ Omega,\ i.e.$

$$a^2 = k.\frac{1}{m} = Omega$$

$Conjecture\ w.r.t.\ Equation\ 12.\ \ [\boldsymbol{\lambda - dot}]^2 = [\boldsymbol{\lambda.\lambda - dd}]$

$a\ transfer\ of\ one\ r.h.s.\text{'}denominator\text{'}\ lambda\ is\ a\ first\ step\ to$

K.3.L $if\ [k]\ i.e.\ thus\ also\ [k^2]\ is\ kept\ \text{'relatively constant'}\ the\ reciprocity\ relationship\ for\ the\ product\ [\lambda\ .\ a]$

$as\ conveyed\ in\ the\ model\ maxim, can\ be\ a\ candidate\ explanation\ for\ the\ \boldsymbol{Galactic\ rotation\ curves}\ conundrum.$

$The\ observations\ multiply\ support\ flat-ish\ velocity\ rotation\ curves, [12.] produces\ a\ ready\ \boldsymbol{M.O.N.D.}\ style\ explanation,$

$actually\ a\ \boldsymbol{metrik\ density}\ [\boldsymbol{Gamma = Rho}]\ formalism, \ldots sans\ darkness\ .$

$Instead\ of\ looking\ for\ \text{'}\ missing\text{'}\ mass, we\ might\ look\ at\ \boldsymbol{F} \propto \frac{\boldsymbol{1}}{\boldsymbol{r^3}}\ where\ locally\ \gamma = mh\ where\ \boldsymbol{system\ m} = [\boldsymbol{Mm}]\ \&\ \boldsymbol{h} = k^3$

In any case equation 12. is effectively, a classical $m\boldsymbol{v^2} = m\boldsymbol{gh}$, where, $[v = k = \left[\frac{\lambda}{\gamma}\right] = lambda - dot]$, $[g = a]$ & $[h = \lambda]$, we might now also restore a 'cancelled' system mass $[m]$ & omit the 1/[2] factor from the $Kinetic$ l.h.s, we say the [2] can be fashioned as states, or

$$[\lambda - dot]^2 = [\{\lambda.\lambda - dd\} \leftrightarrow (+) \leftrightarrow \{\lambda - dd.\lambda\}] = \{[\lambda.\boldsymbol{a}] \leftrightarrow (+) \leftrightarrow [\boldsymbol{a}.\lambda]\} = [2] states, trivially\ redundant:$$

$or\ in\ lambda\ script$

$$\left[\frac{\lambda}{\lambda.\lambda} \cdot \frac{\lambda}{\lambda.\lambda}\right] = \lambda\ .\ \left[\frac{\lambda}{\lambda.\lambda.\lambda.\lambda}\right] \qquad transfer\ 1\ lambda\ to\ l.h.s. gives,$$

$$\frac{[\lambda.\lambda.\lambda]}{[\gamma.\gamma]} = \left[\frac{\gamma}{\lambda.\lambda.\lambda}\right] \qquad i.e.\ \ \left\{\left[\frac{r^3}{t^2}\right] = \left[\frac{t}{e}\right]\right\} \equiv k \quad where\ \lambda^2 = \gamma,\ \&\ \ t^2 = \gamma^2 = p$$

$$\&\ as\ \{r^3 \equiv \lambda^3 = energy \equiv [m - dot]\},\ we\ can\ say\ \left[\frac{\boldsymbol{e^2}}{\boldsymbol{t^3}}\right] = \boldsymbol{Unity}, \qquad pseudo\ style\ K.3.L.\ a\ la\ mode$$

$$\frac{\&}{or}, \{\boldsymbol{energy^2} = \boldsymbol{mass\ x\ lambda}\} = \boldsymbol{\gamma^3} \quad or\ , \boldsymbol{reciprocal\ omega}, \ldots\ now\ we\ can\ look\ at\ Dirac.$$

<u>Dirac's relativistic electron equation rendered into the model</u>

$$\boldsymbol{m\{\psi\} = i.\gamma\frac{d[\psi]}{dx}}$$

$$\boldsymbol{in\ 1-d\ here\ say,} \qquad \boldsymbol{thus\frac{d}{dx} = \frac{d}{d\lambda} = \frac{1}{\lambda}\ (approx.) = [k]s}$$

$$\boldsymbol{in\ our\ model\ imaginary\ \{i\}\ is\ equivalent\ to\ system\ momentum\ , thus}$$

$$\boldsymbol{\{i\} = p = gamma^2 = lambda^4 = \sqrt{[m.m - dot]} = \sqrt{(-1)}}$$

$$\boldsymbol{also, we\ can\ cancel\ Psi\ both\ sides, for\ clarity, i.e.\ the\ pared\ down\ model\ Dirac, now\ gives}$$

$$\boldsymbol{m = k/\omega}$$

<u>Schrodinger</u>

$$i.h - bar\,\frac{d\{\psi]}{dt} = H\{\psi\}$$

$Again\ 'cancelling'\ [\psi]\ or\ allow\ Psi = Unity,\quad let[\,i = p]\ as\ before,\quad \&\ \frac{d}{dt} \equiv -dot = \frac{1}{\gamma}$

$\&\ as\ h - bar = \left\{\frac{h}{2\pi}\right\},\quad we\ ignore\ factor\ [2]\ as\ indicating\ perhaps\ 2 - states.$

$$We\ get,\quad \{i\,.h - bar\} - dot = energy\quad or,$$

$$[\ \{\,i - dot.[h - bar]\,\}\quad \leftarrow (+) \rightarrow\quad \{\,i.\ [h - bar] - dot\}\ ] = m - dot,$$

$where\ we\ allow\ for\ a\ possibility\ of\ + ve/-ve\ energy\ on\ r.h.s.$

$$Firstly,\ h - bar = -ve\frac{mass}{(2)\pi}$$

$$= -mp\,,\qquad as\ 1/\pi = p$$

$$= ap = k^3.\lambda^4 = \lambda\quad in\ this\ case$$

$$then\ \{\,i.h - bar\} - dot\quad gives,$$

$$[p.\lambda] - dot = [\ \{\,p - dot\,.\,\lambda\,\}\ \leftrightarrow (+) \leftrightarrow\ \{\,p\,.\,\lambda - dot\,\}\ ]s$$

$$or\ [2]\ states\ [\ \{\gamma.\lambda\} \leftarrow (+) \rightarrow \{\,p.k\}\ ] = energy = modulus\left[\,lambda^3\,\right]$$

$$Now\ + ve\ energy = reciprocal\ acceleration\ (gravity)\quad or,\quad [\,a.e\,] = Unity$$

$$\&\ if\ we\ plumb\ for\ - ve\ energy, \ldots\ that\ is\ identical\ to\ reciprocal\ mass.$$

$So\ we\ see\ in\ the\ generalized\ T.D.S.E,$

$we\ have\ a\ very\ full\ exposition\ of\ the\ scheme, in\ either\ \&\ both,$

$$a\ dynamic\ Superposition\ of\ [2] states$$

$$-ve[\,mass\,.\ energy] = Unity,\qquad identically\ \ [\,acceleration\ .\ energy\,]$$

$$\&/or$$

$$[\ mass\ .\ - ve\ energy\,] = Unity = [\frac{m}{m}]$$

$$A\ system\ incorporating + ve\ \&\ - ve\ aspects\ of\ mass\ \&\ energy,$$

$$\&\ gravity\ at\ face\ value\ and\ the\ system\ Omega\ within.$$

Maxwell & Faraday.

$$-\frac{dB}{dt} = \nabla\, X\, E$$

$We\ state\ some\ assumptions, \quad the\ minus\ sign\ here\ (-)\ is\ model\ -ve\ Operator$

$(loosely\ for\ now)\ B\ can\ be\ [m.\gamma] * = lambda^7\ unity\ wheel * peg\ coincident\ with\ both\ [a.c.w.] *$
$moment\ of\ inertia\ [\,I],\ \&\ also, [c.w] * entropy\ [S] =\ k^9, but\ we\ go\ with\ the\ former\ case\ here,$
$in\ the\ first\ instance,$

$$so, \quad \frac{dB}{dt} = \frac{I}{\gamma} \equiv \frac{[m.\gamma]}{\gamma} = m$$

$$thus, \quad -ve\frac{dB}{dt} = -ve\ mass = [a]$$

$$\{t\} = [\,\gamma]s \quad , \quad \nabla = Del = \frac{d}{dx}\ in\ 1-d, and\ thus = [k]s$$

$$E = -ve\ frequency, \quad and/or - ve.-ve[m.\lambda]s\ identically = -ve[energy^2]\ thus\ E\ yields\ 1/mm$$

$$\&\ finally\ the\ classical\ [X]\ vector\ product, \quad is\ also = -ve\ Operator = \frac{1}{\gamma^4}$$

$we\ get,$

$$a = del\, X\, E$$

$$= k\,.-ve\frac{1}{mm}$$

$$= \frac{-vek}{mm}$$

$$= \frac{S}{mm}$$

$$= k^9.k^{10} = k^{19}$$

$$Now\ k^{19}\ is\ coincident\ with\ the\ 'peg'\ [\,k^3] = [a]$$

$$on\ the\ familiar\ unit - \lambda\ complex\ wheel$$

$$after\ 1\ full\ c.w.rotation\ by\ k^{16}, thus$$

$$-ve\ mass = a$$

Note: The model uses a *Unity lambda complex wheel with 16 *pegs* set apart at intervals of [π/8].

The general lambda [λs]

$$14.\ System\ Lambda = \boxed{\left[\lambda\,.e^{i.\frac{\pi}{8}}\right]^n \quad n = +/-\{0,1,2,3,\}}$$

$$+ve\ integers\ yield\ [\lambda]^n\ and\ -ve\ integers\ [k]^n$$

These curves, cycle in acw & cw rotation sense, respectively.

Maxwell cont.

Similarly on the unity wheel, we see as stated previously, [B] & [S] *share a coincidence peg*, see Fig:4 p.6

therefore is it possible that [B] could be a micro lambda

***phenomenon* label for entropy [S] ?, and of course visa versa, say.**

$$\omega = \left[\frac{mS}{\gamma}\right] \approx \left[\frac{mB}{\gamma}\right]$$

$$= [m.S] - dot \ = [\{m - dot\,.S\} \leftrightarrow (+) \leftrightarrow \{m\,.S - dot\}]$$ **&/or**

= [mB]-dot = [{ m-dot . B } ↔ (+) ↔ { m . B-dot }]

$$Then \ \frac{w}{m} = B - dot \ = \frac{k}{mm} \ = \ k.E$$

$$Thus\ we\ derive\ a\ familiar, \quad E \ = \ cB \quad can\ be\ found$$

$$B \ = \ E.[k\gamma] \ = \ E.\lambda \quad thus$$

$$E \ = \frac{B}{\lambda} \equiv \ kB \ = \ cB \quad \&\ now\ also\ cS = kS = E = k^{10}$$ **& from**

w/m = B-dot **...for quantum scale* systems**

allowing that the $[B] - field\ phenomenon\ *$

$\equiv\ entropy\ [S]$ *, an historic mistook doppelganger, actually all 1 entity & running with it here.*

[-m.-m]/ m = dB/dt then,

$-ve.-ve\,m \ = \frac{dB}{dt} \equiv \frac{dS}{dt} = \ -ve\ [a]$, **etc. We think gravity** $[a]$ **is -ve mass of the system**

& rate of Entropy is a doubly -ve mass, -ve.-ve [m] thus doubly 'conservative or centric acting' & we note magnetism is an attractive *Force*. It is commonplace to note that a magnetic source in a relatively small lambda scheme*, (bar magnet}* can overcome,… be more attractive, than the [g] force of a very large scheme, Planet Earth. Thus *localised gravity & dS/dt may be mutually emergent.*

Currently Hypothesised as a 'dark' phenomenon. Glory be to dappled things,… & his dark materials.

w.r.t to generic Platonik identities in the model there are many 2nd order equations or identities which allow for resonance with Classical ideas.

Generally any sensible *dummy parameter* [$]

+ve /-ve will do to emulate

$$\gamma\,.[\$] - dot \ = \ [\$]$$

examples,

$$[\$] = \{ mass, \quad lambda, \quad Hooke\,[K], \ entropy\,, \quad etc$$

$$Which\ aligns\ well\ with\ another\ 2nd\ order\ type$$

$$[[\$] - dot]^2 \ = \ [\$]\,.[\$ - dd]$$

$\textit{Thus we may look at the Lambda model System gravity pixellation from an array of}$

$\textit{cyclik} \ \& \ \textit{mutually iterative'sources' especially so if we allow} \ [c.w.] \& [a.c.w] \ \textit{Unity complex wheel coincidence pegs.}$

$e.g.\{entropy\ [S]\ \&/or\ [B] - field\ = [k^9]\ or\ [\lambda^7]\}\ \&/or$

$-ve\ mass = [a] = [k^3], or\ [k^{19}], or\ potentially?\ [\lambda^{13}]\ or\ \text{'}gravity\ angle\text{'},$

$\textit{aligning with some modern paradigms i.e. 'emergence phenomenon'}$

$\textit{linking perhaps,}$

$\textit{system rate of entropy} \frac{*dS}{dt} \textit{with} \ -ve \ \textit{gravity} \ -a, \textit{which is also}, -ve.-ve \ \textit{mass, in rotation or phase sense.}$

*Noted above that [**B]** like gravity is 'conservatively attractive', say *d**B**/dt = **-ve.-ve mass ,...** an uber -negative gravity 'force'*

Huge in small schemes, tenuous in large systems.

$\textit{This} \ [dS/dt] \ \textit{can be a candidate for Einstein's Cosmological constant} \ \Lambda, \textit{in our Solar scheme}$

$$'S - dot' = \left[\frac{S}{\gamma}\right] = [k]^{11} = \mathbf{10^{-121}} \ , \textit{circa some current estimates of} \ [\Lambda] \ldots \text{'}dark\ energy\text{'}\ perhaps?$$

Maxwell cont.

We'll approach it differently here, allowing a 2nd order gamma differential or double dot [-dd]

Acting on Maxwell's equations.

$$-\frac{d^2B}{dt^2} = \nabla X \frac{dE}{dt}$$

in model terms, $dE/dt = E - dot = 1/[mm\gamma]s = k^{12} = \omega^2$

so we get

$[-vem]/\gamma = -\omega^2.k$ **now transpose the gamma**

$-ve\ mass = -ve\omega^2.[\gamma k]$,

yields the familiar s.h.m. expression

$$-\omega^2.\lambda = a$$

By transferring the -ve sign, we get $\omega^2.\lambda = -ve\ a \quad = S - dot = [\frac{S}{\gamma}]$

$$= \frac{dS}{dt}$$

$$allows\ gravity - entropy\ 'emergence'\ paradigm$$

Lorentz Force equation

F = q [E + v X B]

There are many routes through this to yield [+ve &/or-ve] *force*

i.e. [F] gives *gamma or omega* respectively.

The standard assumptions apply,

say charge = +ve or -ve, or +q, -q

Charge in this model is [m.k] gives [q] = λ^4 **or [p] perhaps,**

& -ve[mk] = [-q] = k^4 **or [π] perhaps**

E = 1/mm = k^{10}

B = [mγ] = λ^7 **or could be [S] =** k^9

We can say [X] product is -ve Operator or a standard multiplier {x}

Velocity [v] can be [c] &/or system k, of course.

Fun can be had & we get several reasonable results for variant input

& some feel,… *more natural than others*

The Hamiltonian

(1) dq/dt = +ve ∂H/∂p

(2) -ve dp/dt = ∂H/∂q

$$I'm\ allowing\ previous\ relaxations\ w.r.t.\ 'fairly\ \ wide\ latitude'\ applies\ to\ the\ formalism$$

$$i.e.\ \ I\ often\ make\ no\ distinction\ between\ partial\ [\partial]\ \&\ [d],$$

$$and\ indeed\ freely\ cancel\ these\ on\ most\ occasions, to\ generate\ the\ 'pared\ down'\ identity\ or\ equation.$$

$$Generally\ the\ Hamiltonian\ is\ relaxed\ to$$

$$[H] = composite\ \ 'system'\ energy = m - dot = \frac{dm}{dt}\ \ ,etc$$

[q = lambda], [p = model momentum], [t = gamma], etc

Thus, we get

(1.a) k = ωm

(2.a) -veγ = [m-dot] . k

And as system gamma force = [m.k]-dot = [{m-dot.k } ↔ (+) ↔ {m.k-dot}]

And we can say l.h.s. gamma in (2.a) = omega, from ω = -ve [γ] and general commutativity

w.r.t. the minus sign, i.e. classically this can transpose across the equality, etc.

Note: The model sees an easier way than previous example, whereby we suggest, very respectfully, that a -ve sign may be missing on r.h.s. of conventional Hamiltonian [2],

but we can largely bypass that by rewriting Hamiltonian 1 in model terms

$$\boldsymbol{H1:\quad \lambda - dot\ = \frac{m-dot}{p}} \qquad \boldsymbol{k\ = \frac{energy}{momentum} = \pi.[m - dot]\ = [\frac{m}{\gamma^3}]}$$

then simply post a -ve sign on both sides of H1 to give,

$$\boldsymbol{H2:\quad - ve\ \lambda - dot\quad = \quad \frac{-ve\ m-dot}{p}}$$

Applying the model mode, we get

H1: k = ωm

as before, & H2: gives [-ve k]= [-ve energy/ momentum] , or

$$\boldsymbol{H2:\quad S\ =\ \ -ve[\,\omega.m]}$$

$$\boldsymbol{S\ =\ [\ \{-ve\omega\,.m\,\}\ \leftrightarrow (+) \leftrightarrow\ \{\,\omega.-ve\ m\,\}\,]}$$

or an entropy expression, where alternatively we could say, Hooke's constant is differentiated once w.r.t. gamma,

$$\boldsymbol{[\ dK/dt]\ =\ K/\gamma\ =\ K - dot\ \ = [k^7/\gamma]\ =\ S}$$

$\boldsymbol{S\ =\ k^9}$ **[c.w.] *'peg'***

Of course this begs the Q? why not differentiate model Hamiltonians once again, or more.

$$* H1: \quad \lambda - dd = \frac{m-dd}{p}$$ ***gives [a] = -ve mass***

$$* H2: \quad -ve\,\lambda - dd = \frac{-ve\, m-dd}{p}$$ ***gives -ve [a] = dS/dt***

Nothing very extraordinary here as we could emulate these new model entries by a minor variant on Hamilton's originals, for H1 alone, we could say.

H1.a: $$\frac{\partial H}{\partial t} \cdot \frac{\partial t}{\partial p} = \frac{dq}{dt} \qquad allowing\ \frac{dH}{dp} = \frac{dq}{dt}$$

$$Or\ simplified\ to\ \frac{H}{p} = \frac{\lambda}{t} \qquad or,\ H.t = p.\lambda$$

$$that\ gives,\ \gamma.m - dot = mass \qquad of\ course.,as\ [p] = \lambda^4$$

H1.a: is identical to/& could also be, a la mode

$$\gamma - dot.\frac{\partial H}{dp} = q - dot \qquad allowing \quad \left[\frac{e}{p}\right] = k, \quad \&\quad energy = pk = [pc]$$ ***familiar***

$$\&\ [e.\lambda] = p$$

And something similar but also inclusive of the -ve Operator <u>both sides</u> for remodelled H2, where we said, H2 = -ve H1

$$-ve\left[\gamma - dot.\frac{\partial H}{dp}\right] = -ve\,[q - dot]$$ ***allowing [-ve energy /p] = -ve lambda***

$$and\ as\ -ve\ energy = reciprocal\ mass, \qquad and\ -ve\ lambda = Hooke\,[K], we\ get$$

$$1/mp = K - dot$$

$$[K]\ is\ Hooke's\ constant, or\ reciprocal\ Moment\ of\ Inertia\ [1/\ I]$$

$$Then\ another\ gamma\ identity\ is\ found\ \ m.p.K = \gamma$$

$$now\ [m.K] = [\,lambda^5\ .Lambda^{-7}] = 1/lambda^2 = frequency,\ f = 1/gamma$$

$$Thus\ \gamma = pf = p - dot = \left[\frac{p}{\gamma}\right] = \left[\frac{dp}{dt}\right] = \gamma^2/\gamma$$

$$gives\ system\ gamma\ [\gamma]s = [F] = \{t\}, \qquad in\ this\ scheme.$$

$Note: The\ classical\ Unity\ identity\ for\ reciprocal\ time\ \&\ frequency\ [\,f = 1/t\,]\ also\ has\ a\ model\ analogue, in$

$$[\gamma - dot]^2 \equiv [\gamma\ .\ \gamma - dd] \qquad i.e. \qquad 1^2 = t.f$$

$in\ lambda\ script\ we\ devolve\ down\ to\ lambda, \qquad thro\ gamma$

$$\left[\frac{\gamma.\gamma}{\gamma.\gamma}\right] \equiv \left[\gamma\,.\,\frac{\gamma}{[\gamma.\gamma]}\right] \qquad to\ give, \qquad \frac{[\lambda.\lambda\ .\ \lambda.\lambda]}{[\lambda.\lambda\ .\ \lambda.\lambda]} \equiv [\lambda.\lambda]\,.\,\frac{[\lambda.\lambda]}{[\lambda.\lambda\ .\ \lambda.\lambda]}$$

$Lambda\ script\ is\ representative\ of\ a\ lambda\ scheme\ 'operating\ iteratively\ on\ itself'\ at\ perhaps?$
$some\ base\ Platonik\ geometrik\ level\ in\ Nature.$

$That\ is\ to\ imply, it\ is$ $One\ System\ lambda\ in\ 'fluxions'$$.\ Not\ the\ multiples\ of\ lambda\ arrayed\ in\ the\ fashion\ we\ see\ immediately\ above,$ $that\ is\ merely\ our\ pedestrian\ attempt\ at\ algebraic\ formulism\ emulating\ some\ as\ yet,\ unknown\ dynamik\ dimensionality\ in\ Nature,$

$\&\ thus\ can\ be\ improved\ upon\ no\ doubt, with\ expanded\ lambda\ identity\ 14.\left[\lambda.e^{\left[\frac{i\pi}{8}\right]}\right]^n\ as\ approximation\ in\ our\ model.$

$$S.R. \quad \& \quad E = mc^2$$

$$becomes\ energy = m - dot = mass\ .frequency$$

$$E = m.k^2$$

$$The\ model\ invokes\ a\ direct\ constant\ of\ proportionality\ for\ the\ mass\ energy\ equivalence$$

Which in effect is also a variant gamma.

14. $\gamma.m - dot = m$

$$Which\ is\ a\ simple\ derivative\ from\ the\ system\ energy, \quad e = [mass/gamma] = [dm/dt]$$

$$Or\ the\ Action\ principle, as\ seen\ in\ Heisenberg's\ pared\ down\ Uncertainty\ Principle$$

$$Featuring\ energy\ \&\ time\ in\ product, with\ [h]\ as\ the\ mimimun\ of\ action,$$

$$E.t\ = \geq h, \quad \&\ also\ used\ in \quad \Delta p.\Delta x \geq h$$

$$Which\ can\ be\ pared\ back\ to\ yield\ Louie\ de\ Broglie's\ wave\ hypothesis$$

$$\lambda = h/p$$

the $model\ explicitly\ allows\ for\ -ve\ mass = [h]$

$thus\ we\ have\ [2]\ de\ Broglie's.\ +ve\ \&\ -ve\ lambda\ in\ a\ sense$

1. $m = p.\lambda$

$$+ve\ mass = momentum\ x\ lambda$$

$$= [lambda]^5, \quad locally\ [Mm]$$

2. $-ve\ mass = -ve\ [p.\lambda] = [\ \{-ve\ p\ .\ \lambda\} \leftrightarrow (+) \leftrightarrow \{p\ .-ve\ \lambda\}\ ]$

$$= [lambda]^{-3}, \quad locally\ -ve\ [Mm] = [h]$$

$2.\ gives \quad acc\ [a] = \{\ [\pi.\lambda] \leftrightarrow (+) \leftrightarrow [p.K]\ \}$

$$where \quad [p] = \lambda^4, \quad \&\ [K] = k^7 = Hooke's\ constant.$$

$As\ we\ introduced\ de\ Broglie\ here, we\ see\ the\ \boldsymbol{Photo - electric\ effect}$
$and\ the\ \ \boldsymbol{Einstein -\ Planck}\ relationship\ has\ similarly\ modelled\ omega\ attributes.$

$$\boldsymbol{E}\ =\ \boldsymbol{h.\nu}\quad can\ posess\ (+ve/-ve)\ flavours,$$

$$-\boldsymbol{ve}\ E\ =\ -ve\ [mass\ .frequency] = [\ \{-ve\ m - dot\}\quad \leftrightarrow (+) \leftrightarrow\ \ \{m\ .-ve\ f\}]$$

$$(\ \&) + \boldsymbol{ve}\ E\ =\ m - dot$$ & +ve energy, potentially sourced via

$$\{\ m. -ve[m.\lambda] = \{gamma\ .lambda\} = \lambda^3$$

$$The\ combination\ can\ yield\ up\ model\ identity$$

$$-\boldsymbol{ve}[\boldsymbol{mass.energy}] =\ \mathbf{1}$$
$$\boldsymbol{thus}$$
$$[\boldsymbol{mass.energy}] =\ -\boldsymbol{ve}\ \mathbf{1}\ \equiv\ \ \mathbf{1}/\boldsymbol{\gamma}^{\mathbf{4}}$$

$$\boldsymbol{Unity} =\ \boldsymbol{\lambda}^{\mathbf{0}}\ \&\ \{\boldsymbol{n}\}\boldsymbol{x}\ \mathbf{2}\boldsymbol{\pi}\ \boldsymbol{repeats\ to}\ \boldsymbol{\lambda}^{\mathbf{16}} = \{\mathbf{2}\}\boldsymbol{\pi}, [\boldsymbol{a.c.w.}], \boldsymbol{etc}$$

$$\boldsymbol{And}\ \ -\boldsymbol{ve}\ \mathbf{1}\ =\ \boldsymbol{\lambda}^{\mathbf{8}}\ \ \&\ \ \{\boldsymbol{n}\}\ \boldsymbol{x}\ \mathbf{2}\boldsymbol{\pi}\ \boldsymbol{repeats\ to}\ \boldsymbol{\lambda}^{\mathbf{24}}, [\boldsymbol{c.w.}], \boldsymbol{etc}$$
$$\boldsymbol{Where}\ \frac{+\boldsymbol{ve}}{-\boldsymbol{ve}}\ [\mathbf{1}\ ]\boldsymbol{can\ be\ fashioned\ by\ various\ periodic}\ \{\boldsymbol{k}^{\boldsymbol{n}}\}\ \boldsymbol{of\ course\ also, with}$$
$$\frac{\mathbf{1}}{\mathbf{2}\boldsymbol{\pi}}\ [\boldsymbol{c.w.}]\boldsymbol{rotation\ sense\ application}.$$

$$w.r.t.the\ Photo - electric\ effect$$

$$\underline{kinetic\ \ energy\quad \boldsymbol{E} =\ \boldsymbol{h.\nu} - \emptyset}$$

$we\ see, that\ the\ \boldsymbol{work\ function\ Phi}, can\ be\ seen\ as\ the\ need\ to\ overcome\ the$
$-\ \boldsymbol{ve}$ 'binding' $energy\ perhaps,$

$and\ in\ any\ case\ it\ is\ a\ re - working\ of\ the\ previously\ stated\ unit\ model\ identity.$

$\underline{The\ equivalence\ principle\ \&\ G.R.}$

$$The\ model\ says\ -ve\ mass\ =\ a\ \equiv\ gravity\ or\ `curvature - geometry'$$

$$Thus\ a\ =\ k^3 =\ k - dot\ = \frac{1}{e},\qquad and\ `geometrically'\ =\ reciprocal\ Volume$$

$$Now\ looking\ at$$

$$G\mu v\ =\ 8\pi G\ T\mu v$$

$$My\ assumptions\ are,\qquad G\mu v\ yields\ `gravity'\ [a]$$

$$T\mu v\ is\ density\ Rho\ = \frac{mass}{Volume}\ or\ Boylesque\ gamma$$

$$Ignore\ factor\ [8]\ as\ states, or\ some\ such,\qquad G\ =\ k - number,\qquad pi\ =\ 1/p\ =\ k^4\ =\ 1/\gamma^2$$

$$then\ we\ get$$

$$Gravity\ =\ \pi.k.\rho$$

$$=\ [k.\rho] - dd$$

$$=\ \{\ [k - dd.\rho]\ \leftrightarrow (+) \leftrightarrow\ [k - dot.\rho - dot]\ \leftrightarrow (+) \leftrightarrow\ [k.\rho - dd]\ \}$$

$$=\ \{\ \left[\frac{\rho}{m}\right] \leftrightarrow\ (+)\ \leftrightarrow\ [a.1]\ \leftrightarrow (+) \leftrightarrow\ [\ k.f\ ]\ \}\qquad \leftarrow [3] \rightarrow\ states$$

$$The\ 2nd\ \&\ 3rd\ term\ are\ acceleration\ i.e.gravity\ [a],\qquad \&\ equivalent\ k - dot,\qquad respectively$$

$$The\ 1st\ is\ equivalent\ to\ [\gamma/m]\ =\ 1/energy\ =\ [a]$$

$$Thus\ we\ retrieve\ [\ -m\ .m - dot\ ] =\ 1$$

$$w.r.t.Boyle's\ Law,\ [\ PV\ ] =\ constant$$

$$can\ be,\qquad [\ \gamma - dot\ .\ m - dot] = [\ 1\ ].\ Energy$$

$$energy\ is\ the\ constant, gamma\ is\ the\ density,$$

$$\&\ \ pressure\ P\ =\ F/A\ =\ [\gamma/\gamma]\ =\ \gamma - dot\ =\ 1,\qquad \&\ energy\ =\ \lambda^3\ \ =\ Volume$$

$$Hooke\ also\ deserves\ a\ mention\ as\ alike\ Kepler, he, perhaps\ unwittingly?, pointed\ towards\ the\ model\ identity$$

$$[-ve\ F\ \equiv\ Omega]s\ \ with\ Hooke's\ law\ in\ 1660.$$

$$Nullius\ in\ verba.$$

$$There\ are\ multiple\ more\ examples\ I\ suggest, but\ hats\ off\ to\ Kepler\ in\ particular,$$

$$not\ to\ mention\ Tycho, \&\ Kopernik,\qquad \&\ Galileo\ '\ eppur\ si\ muove\ '$$

$$\&\ with\ certainty, Giordano\ Bruno\ `the\ martyred\ one', had\ a\ stake\ also.$$

$$It\ seems\ a\ grand\ synthesis\ is\ in\ prospect, and\ lo!\ `All\ Religions\ are\ 1'. [W.Blake]$$

$$\&\ now\ these\ three\ remain.$$

$$1\ .c\quad [\quad \{\ h - dd\ .\ \lambda\ \}\quad \leftrightarrow (+) \leftrightarrow\quad \{\ h - dot\ .\ \lambda - dot\ \}\quad \leftrightarrow (+) \leftrightarrow\quad \{\ h\ .\ \lambda - dd\ \}\quad]$$

On Raglan road of an Autumn's day I met her first & knew ... The 'Peasant poet' Patrick Kavanagh.

<u>Aeons before the Big Bang &/or One bright blue Rose</u>

This business of coincidence pegs on the Unity Wheel, can reveal some surprising results, but we have to jump severally back & forth along 'constant slope' radials which cut thro 'bothwise' + ve & −ve integer spirals, and dance thro 'fantasy & faith' ... well after a Fashion. Firstly Ludwig Boltzmann.

$$S = k \log W$$

I simplify $[W]$ *to equal energy, & / or Volume, & lambda*^{3} *& / or* $m - dot = \left[\frac{m}{\gamma}\right]$. [k] Boltzmann's constant.

Then o.o.m calculations local scheme, $S = 10^{-23} . \log [10^{11}]^3$

gives $S = [33]\, x\, 10^{-23}$ *or* $3.3\, x\, 10^{-22}$ *or* $3.3\, x\, f = \frac{3.3}{\gamma}$ *say* $\frac{3}{gamma}$

$$as\ [f]s = [k]s^2 = [10^{-11}]^2 = [G]^2$$

Now from Thermodynamiks: energy is $m - dot = ST$

we get, $[\ m = ST\gamma\ ]$ & $[T].\gamma = \lambda^{14}$ *[a.c.w.] is 'coincident' with [c.w]* $k^2 = frequency\ f$

Thus $(mass) \sim S.f$

can this be true? Well we embrace bothwise rotation or phase 'sense' coincidence in Nature in this model.

$$[a.c.w.\ \boldsymbol{mass} - peg] @ [\lambda^5] \approx [\boldsymbol{k^{11}}] @ [\ c.w.\ \ \{\boldsymbol{S.f}\} - peg\ ] = \left[\frac{S}{\gamma}\right]$$

& previously [S] was 3.f so now , $[S].f = 3 . f^2$

$$= [3.\pi] \quad as\ [pi] = f^2 = k^4$$

& $k^4 = [\pi]s$ *is a [c.w.]coincidence peg with Temperature* $T = \lambda^{12}$ *[a.c.w]* $-ve\ T = [\ p]$ & $-\ ve.-ve\ T = [\pi]$

So with seemingly no shame, ... I am claiming we have [3 K @ pi peg] if not? ... then in the noise circa the $-\ ve\ \pi$ *peg @*$\boldsymbol{k^{12}}$

<u>the CMBR circa 3 deg is hereby viewed as a local system phenomenon.</u>

*[**3**]is the magnitude temp in Kelvin*

& $[\boldsymbol{\pi}]s$ *is the position* $k^4 \approx \lambda^{12}$ *peg co − existent in phase space radial of the generic λs model with Temp.*

We can say Temperature @ λ^{12} *, shares a common radial, with* $-\ ve\ T \equiv$ *momentum [p],* & $-\ ve\ p \equiv [\pi] \equiv -ve.-ve\ T$

All lie on the same slope, the lowest magnitude signal is on − ve [pi] or

$-ve - ve.-ve\ T$ *at* $\{n = -12]$, *or* $[k^{12}]$ *but that would be down in the noise I suspect @ mag circal* 10^{-132}.

The intermediate values are $[\ \pi\ ]$ & $[\ \boldsymbol{p}\ ]$ *@ integers*

$[n = -4, \& + 4]$ *yield 'signals' circa* 10^{-44} & 10^{44} *respectively, and the highest magnitude would be T @* $[n = 12]$, *gives* 10^{132}.

The System lambda thro generic Omega.

$From\ the\ classical\ view\ -\omega^2.x\ =\ a$, $as\ shown\ previously,$ $let\ [x = lambda]\ we\ can\ fashion$

$$\omega^2.\lambda\ =\ -ve\ a \qquad \&\quad -ve\ a\ = \frac{dS}{dt}\ =\ S - dot$$

also, * $\omega^2\ =\ \frac{1}{T}\ =\ k^{12}$ *from the wheel, whence from [mass = KT] we yield classical* $\omega = \sqrt{\left[\frac{K}{m}\right]}$ *

Then a model variant 'Thermodynamik & Entropik' model de Broglie presents itself.

$System\ lambda\ \ \boldsymbol{\lambda s}\ = [\,\boldsymbol{S.T}] - \boldsymbol{dot}$ $,or\ in\ expansion$

$$\boldsymbol{\lambda}\ =\ \{\ \{\ \boldsymbol{S - dot\ .T}\ \}\ \leftarrow (+) \rightarrow\ \{\ \boldsymbol{S\ .T - dot}\ \}]$$

& we can devolve down to the Hooke constant here,

$\boldsymbol{\lambda}$ = [K. T]-dd gives [3] flavours

$$\boldsymbol{\Lambda}\ =\ \{\ \left[\frac{\boldsymbol{d^2K}}{\boldsymbol{dt^2}}\ .\boldsymbol{T}\right]\ \leftarrow (+) \rightarrow\ \left[\frac{\boldsymbol{dK}}{\boldsymbol{dt}}.\frac{\boldsymbol{dT}}{\boldsymbol{dt}}\right]\ \leftarrow (+) \rightarrow\ \left[\boldsymbol{K}.\frac{\boldsymbol{d^2T}}{\boldsymbol{dt^2}}\right]\ \}$$

$$Then\ system\ [\,k]\ locally\ [G] is\ fashioned\ from\ lambda - dot,$$

$$\&\ gravity\ \ ,k - dot\ \equiv\ lambda - dd\ =\ [a], \ldots\ locally\ [h]$$

$$We\ state\ as.$$

$$[\boldsymbol{k}]\ =\ [\boldsymbol{K.T}] - \boldsymbol{ddd},\ \ =\ \boldsymbol{\omega KT}$$

$$[\boldsymbol{a}]\ =\ [\boldsymbol{K.T}] - \boldsymbol{dddd}\ =\ \boldsymbol{-ve}\ [\boldsymbol{K.T}]\quad =\ [\ \ \{\ [\ \boldsymbol{-ve\ K}]\ \ .\boldsymbol{T}\ \}\quad \leftarrow (+) \rightarrow\ \{\ \boldsymbol{K}.[\boldsymbol{-veT}]\}$$

$$\boldsymbol{Gravity}\ = [\ \{\ \frac{\boldsymbol{d^3\,S}}{\boldsymbol{dt^3}}\ .\boldsymbol{T}\}\ \leftarrow (+) \rightarrow\ \ \{\ \boldsymbol{K}.\frac{\boldsymbol{d^3\,T}}{\boldsymbol{dt^3}}\ \}\ ]$$

$$thus\ our\ local\ scheme\ gravitas\ pixel$$

$$[\ \boldsymbol{h}\ ]\ \ =\ \ \boldsymbol{\omega ST}\ \ \leftarrow (+) \rightarrow\ \ \boldsymbol{Kp}$$

$$Allows\ for\ a\ modern\ dynamik\ paradigm\ in$$

$$re - action\ \equiv \boldsymbol{-ve\ mass}\ , argument\ to\ augment\ the\ equivalent\ \&\ discrete\ view$$

$$classical\ [\boldsymbol{a}] = \frac{\boldsymbol{d^2x}}{\boldsymbol{dt^2}}$$

$$i.e.\ \ local\ system\ gravity = [\boldsymbol{a}] = [\boldsymbol{h}] = \sqrt[4]{\left[\frac{\boldsymbol{K}}{\boldsymbol{m}}\right]} = \frac{\boldsymbol{1}}{\sqrt[4]{\boldsymbol{T}}} = \frac{\boldsymbol{1}}{\boldsymbol{e}}$$

$$thus\ our\ model\ classic\ variant\ [\gamma],\qquad \boldsymbol{-ve}[\boldsymbol{m.m - dot}] = \boldsymbol{Unity}$$

This invokes the quantum of Action, & classical mechanics Entropy & Thermodynamics

+ New Λ-model System Omega, Entropy.

$$From\ this\ we\ can\ produce\ a\ \textbf{hot}\ new\ model\ for\ time, alongside\ other\ variant\ possibilities,$$

$$System\ gamma\ =\ Force\ \&/or\ time, as\ [\gamma]s\ =\ m.-vem$$

$$Then\ System\ time\ can\ be\ expressed\ Thermodynamikly$$

$$Time\ \{t\}s\ = \frac{m}{[\sqrt[4]{T}\,]}\ = m.h$$

Thermodynamikly we can develop further wheel associations.

F = dp/dt *can be -ve T-dot =* $[\gamma]S$ *Gamma*

$-ve[\gamma]s\ could\ be\ -ve.-ve\ [T-dot]\ =\ [\omega]$s *Omega*

$$This\ would\ suggest\ that\ the\ local\ De\ Broglie\ circa\ 10^{11}\ (m)$$

$$Is\ our\ System\ lambda, yardstik\ exemplar\ of\ a\ 'closed'\ Physikle\ system\ in\ equilibrium\ with\ itself,$$

$$dynamikly\ self-regulating\ and\ @Peace!\ ...\ in\ Our\ best\ of\ all\ variant\ Worlds$$

$$...'\ Tread\ softly, for\ you\ tread\ on\ my\ dreams!'\quad W.B.Y.$$

Today 7-3-2019 we might add Olga's equation as it appears on Google doodle cartouche.

This is a partial differentiation Navier Stokes type solution of course, and we could imagine both-wise arrows occur linking↔ all terms on r.h.s.

& now very greatly simplified to,

l.h.s of equality = chosen 'singular' last r.h.s term for convenience

$$\boldsymbol{\rho.\frac{Du}{Dt}\ =\ \rho.g}$$

$$\boldsymbol{allowing\ usual\ wide\ latitude\ for\ the\ model, both\ sides\ utilise\ elements\ of}$$

$$\boldsymbol{\{\,gamma\ \equiv Rho \equiv Metrik\ density \equiv\ F \equiv t\ \equiv\ Area\,\}\,x\left\{gravity\ \equiv\ acceleration\ \equiv \frac{dv}{dt}\right\}equivalence\ principles}$$

$$\equiv\ \boldsymbol{\rho.a}$$

$$=\ ma.a$$

$$=\ m.[-vem.-vem]$$

$$=\ \omega.m$$

$$\boldsymbol{\rho.\frac{Du}{Dt}}\ =\ System\ [k]$$

The model view of Simple Harmonic motion.

Fig: 5 s.h.m in the

$$\boldsymbol{a = -\omega^2 . \lambda}$$

$model\ \ Omega\ =\ -ve\ gamma,\quad \&\ acc\ =\ -ve\ mass\ \ thus$

$$-ve\ m\ =\ -ve.\{-ve[\gamma].-ve[\ \gamma]\}.\ \ lambda$$

Or cancelling 1 x $-$ve both sides, gives $\ m\ =\ -ve.-ve\ \ [p.\lambda\,]\qquad$ as $\gamma^2\ =\ p$

Or mass, $m\ =\ -ve.-ve\ p\ .\lambda\ \leftrightarrow\ (+)\leftrightarrow\ \ -ve\ p.-ve\ \lambda\ \ \leftrightarrow\ (+)\leftrightarrow\ \ p\,.-ve.-ve\ \lambda$

Gives $\quad m\ = \omega^2.\lambda\ \leftrightarrow\ (+)\leftrightarrow\ \ \pi.K\ \ \leftrightarrow (+)\ \leftrightarrow\ p.\omega S$

Here we have to remain mindful of the c.w. & a.c.w rotation sense, i.e. ω^2 = c.w. k^{12} & a.c.w. lambda in product makes this pairing = c.w. k^{11} , which is coincident with a.c.w. λ^5 , giving mass.

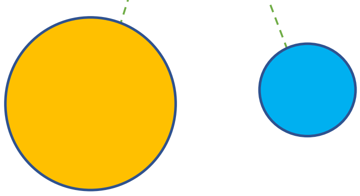
Assume we didn't cancel the single mass, we get

$$-ve\ m\ =\ -ve.-ve[\gamma]\,.-ve[\ \gamma\,]\ .\ \ \lambda$$

$$Thus\ \ \boldsymbol{acc}\ [\boldsymbol{a}]\ =\ -\boldsymbol{ve\ mass}$$

Gives ,

$$\boldsymbol{-ve\ m\ =\ -ve.-ve.-ve\ p\ .\ \lambda\ }(+)\boldsymbol{-ve.-ve\ p\ .-ve\lambda}\ (+)\boldsymbol{-vep.-ve.-ve\ \lambda}\ (+)\ \boldsymbol{p.-ve.-ve.-ve\ \lambda}$$



$$[\boldsymbol{a}] = -\boldsymbol{\omega^2.\lambda}\ \ (+)\ \ \boldsymbol{\omega^2.K}\ \ (+)\ \ \boldsymbol{\pi.\omega.S}\ \ (+)\ \boldsymbol{p.K^2S}$$

$$Thus\ linking\ acceleration\ or\ \ 'gravity'\ to\ restorative\ Hooke,$$

$$entropy,\qquad omega,\qquad momentum\ \&\ model\ [\ pi\ =\ k^4\ ]$$

$$All\ of\ these\ pitch\ up\ at\ c.w.\left[\boldsymbol{k^{19}}\right]peg,\qquad [\boldsymbol{-2\pi}]\boldsymbol{rotation}\ \&\ \ thus\ coincident\ with\ c.w\ \left[\boldsymbol{k^3}\right]$$

$$We\ can\ also\ go\ another\ route\ noting\ \omega^2\ =\ c.w.\ \left[\boldsymbol{k^{12}}\right]\ =\ \boldsymbol{E}-dot\ \ =\frac{d\boldsymbol{E}}{dt}$$

And use a variant s.h.m. expression by transposing the $-\,ve\ sign$ to l.h.s. thus $-\boldsymbol{a}\ =\ \boldsymbol{\omega^2.\lambda}$**, gives**

$$\boldsymbol{-a\ =\frac{dE}{dt}.\lambda\ \ =\ \frac{\lambda}{mm}\ =\ k^9\ =\ entropy-dot\ \left[\frac{dS}{dt}\right]or}$$

$$\boldsymbol{identically\ in\ small\ systems}\ \left[\boldsymbol{\frac{dB}{dt}}\right]$$

Then $\ -ve\ h\ =\ dB/dt\qquad as\ [h]\ =\ -ve\ mass\ =\ a$

$$So,\qquad -ve[h].\gamma\ =\ B,\qquad gives,\qquad -vek\ =[\boldsymbol{B}],\qquad \&/or\ \ [S]$$

Then $-\,ve\ =\ [B/k]\ =\ k^8\ =\ 1/[m.m-dot]$, yields model standard or variant gamma.

$$\boldsymbol{-ve[m.m-dot]\ =\ 1,}\quad \frac{\&}{\boldsymbol{or}}\boldsymbol{reciprocity\ relationship\ for\ gravity}\ \&\ \boldsymbol{energy}\ \ [\boldsymbol{a.e}]\ =\ \boldsymbol{Unity}$$

Appendix 1 : [e] numbers resonance with our local lambda scheme.

$What\ about\ the\ numbers? \ldots\ follow\ the\ numbers.$

$Our\ lambda\ schemes\ use\ Logarithmic\ [e]\ .\&\ we\ use\ o.o.m.calculations$

$We\ may\ note\ some\ resonance\ to\ familiars\ in\ Physik\ @\ our\ local\ yardstick\ \ldots\quad here\ \{\ e\ \}\ is\ standard\ Euler\ number, \&\{\ log\ \}\ is\ base\ 10\ ,$

$$e^{\log[K]} \approx e^{[-77]} \approx 10^{-33} \sim -ve\, mass, \quad or\ \ k-dot, \quad or\ \ acc\ [a] \sim [h]$$

$$e^{log\left[\frac{1}{K}\right]} \approx e^{[77]} \approx 10^{33} \sim m-dot\ \ energy\ [e]$$

$$e^{log}[S] \approx e^{-99} \approx 10^{-43} \sim System\ [\pi] \sim Planck\ \{t\}$$

$$e^{log}\left[\frac{1}{S}\right] \approx e^{99} \approx 10^{43} \sim System\ [p] = [mk] = GMm$$

$$thus, \quad [e^{-\ log\ S}] - dot = \frac{dp}{dt} = [m.k] - dot = \left[\left\{\frac{e}{\lambda}\right\} + \{m.a\}\right] \sim \frac{GMm}{r^2}$$

$$Similarly, \quad \left[e^{log\left[\frac{1}{K}\right]}\right] - dot = \frac{1}{\gamma}\left[e^{log\left[\frac{1}{K}\right]}\right] \sim [\ \lambda]s$$

$$\& \quad [e^{logS}] - dot = \frac{1}{\gamma}[e^{logS}] \sim [\omega]s$$

$$\& \quad \left[e^{\log\left[\frac{1}{S}\right]}\right] - dot = \frac{1}{\gamma}\left[e^{\log\left[\frac{1}{S}\right]}\right]\ \ gives \sim [\gamma]s$$

$$In\ shortened\ form\ \ e^{-22}\ \ or\ e^{Kb}\ ?\ or\ \ e^{f}\ , \quad or\ e^{\left[\frac{1}{\gamma}\right]} \sim 10^{-10}\ circa\ Atomic\ lambda$$

$$e^{-33}\ \ or\ \ e^{-vem}, \quad or\ \ e^{h},\ \ or\ \ e^{a} \sim 10^{-15}\ \ approx\ Nuclear\ lambda \ldots.$$

$$e^{-44} \sim 10^{-19}\ circa\ 'charge'\ [q]\ elektron$$

$$e^{-55}\ \ or\ \ e^{log\left[\frac{1}{Mm}\right]}\ , \quad \&\ \ e^{-66}\ \ or\ \ e^{log\ \omega}\ ,\ \ approx\ \ \ mass\ of\ nucleus\ \&\ electron\ respectively$$

$$e^{55}\ , \quad \&\ e^{66}\ \ approx\ \ \ mass\ of\ Earth\ \ \&\ Sun\ respectively$$

$$e^{121}\ \ \&\ or\ \ \ e^{-log[S]}\ \ approx\ \ \ product\ mass\ \ Mm$$

$$e^{log[S]} = e^{-121}, \sim -ve[Mm] - dot \equiv 1/[Mm] \quad \ldots \quad \&\ so\ on.$$

$Utilising\ the\ model\ view\ on\ Entropy\ \&\ Hooke\ constant\ relationship\quad S\ =\ K - dot,\quad \equiv \frac{dK}{dt}$

$we\ can\ add\ further\ insight\ to\ the\ complex\ wheel, which\ yields\ \frac{1}{4}\ \ integer\ detail,$

$\&\ we\ can\ state\ these\ here.$

$$\lambda\ =\ e^{-\left[\frac{log\ S}{4}\right]},\qquad thus\qquad k\ =\ e^{\left[\frac{log\ S}{4}\right]}$$

$And\ we\ can\ build\ our\ model\ with\ \left(\frac{+}{-}\right)\left\{\frac{n}{4}\right\}\ incrementals$

$\lambda - wise\ [a.c.w.]\ \&\ k - wise\ [c.w.], respectively.$

$System\ Gamma\ =\ \lambda^2\ \ or\qquad \gamma = e^{\left[-\frac{1}{2}\, log\ S\right]}\qquad\qquad System\ frequency\ \ f = \frac{1}{\gamma},\qquad f = e^{\left[\frac{1}{2}\, log\ S\right]}$

$the\ mixture\ of\ \ [e]\ here\ with\ base\ 10\ [Log]\ is\ probably\ a\ reflection\ of\ the\ \ chosen\ \ S.I. units$

$using\ base\ 10\ , and\ the\ fact\ that\ Natural\ logs\ govern\ \ growth\ scenarios\ in\ Nature.$

$Energy\ e\ =\ \ e^{\left[-\frac{3}{4}\, log\ S\right]}\quad momentum\ p\ =\ e^{\left[-\ log\ S\right]}\quad mass\ m\ =\ e^{\left[-\frac{5}{4}\, log\ S\right]},\ m.\lambda\ \ =\ e^{\left[-\frac{3}{2} log\ S\right]},$

$\&\ so\ on\ ,\qquad -ve\ \ \{n\ x\ 1/4\}\ \ integer\ increments,$

$\&\ \ Acceleration\ a\ =\ \ e^{\left[\frac{3}{4}\, log\ S\right]},\ \ \pi\ \ =\ \ e^{\left[\ log\ S\right]},\ \ -ve\ energy\ =\ 1/m\ =\ e^{\left[\frac{5}{4} log\ S\right]},\ Omega\ \ \omega\ \ =\ e^{\left[\frac{3}{2}\, log\ S\right]},$

$etc\qquad\qquad +ve\ \{n\ x\ \frac{1}{4}\}\ integer\ increments$

$Thus\ \ \{c.w\}\ peg\ \ [k^9]\ \ =\ \ entropy\ yields\qquad S = e^{\left[\frac{9}{4}\, log\ S\right]}$

$\&\ as\ [S]\ could\ be\ any\ dummy\ parameter\ \ [\$]\ yields\ a\ familiar,$

$$ln[\ \$\ ] = \frac{9}{4}\ \ log[\ \$\ ],$$

$Which\ is\ a\ reasonable\ 1st\ order\ approximation\ on\ the\ standard\ conversion\ ratio.$

$$However\ we\ can\ probably\ do\ better\ using\ the\ variant\ Gamma\ expression$$

$$m\ =\ \gamma.e^{-logK}$$

transpose the gamma to give

$$m-dot\ =\ e^{-logK}$$

$$Where\ m-dot\ =\ energy\ [e]\ =\ lambda^3, and\ K\ =\ Hooke\ constant\ [k^7]\ =\ lambda^{-7}\ \ =\gamma.S$$

$$Where\ I\ further\ suggest$$

$$Boltzmann's\ constant\ \boldsymbol{K_B} =\ frequency\ of\ our\ local\ scheme\ say\ approx.\ 10^{-22}\ =\frac{1}{gamma}$$

*Thus Boltzmann's law **S = K log W** , can be **S.γ = log e** where I say W ~ energy in a sense*

Thus we get Hooke [K] = ln energy, as log used here is/can be [ln]. Still not quite there?, so it requires a slight mod, and we get back to the model variant here.

Thus we suggest Boltzmann's entropy identity is a model gamma variant, when we add on l.h.s. of equality a [log]$_{10}$ & sign change[-ve], as below,*

allowed by previous assumptions, only, of course.

*Could this sign change be **entaxy**? as hypothesis mentioned by at least 1 respectable contemporaneous source,... spared identification.*

**Thus re-modelled Boltzman could be* $\{-\boldsymbol{log\ K}\ =\ \boldsymbol{ln\ e}\ \}$, *then as* $energy\ =\ m-dot=\lambda^3$, & $Hooke\ [K] = \frac{1}{[m.\gamma]} \equiv \lambda^{-7}$

$$m-dot\ =\ e^{-velogK}$$

$$\lambda^3\quad =\ e^{-log\lambda^{-7}}$$

$$3ln\lambda\ =\ -.-7log\lambda$$

or equivalently in conventional math

$$3\ ln\lambda = 7\ log\lambda$$

$$\ln\ \lambda = \frac{7}{3}\log\lambda$$

I give you the end of a Golden string, ... thus , $\boldsymbol{ln\lambda^n\ =\ n\ \left\{\frac{7}{3}\right\} log\lambda}$ *the* $\lambda-$*model para-metrik*

$\boldsymbol{e.g.}\ \{n=3\}\ \boldsymbol{energy},\ \ \boldsymbol{\lambda^3\ =\ e^{7\ log\lambda}}\ \ \&\ \ \{n=-3\}\ \boldsymbol{acc\ \ gives},\ \ \boldsymbol{\lambda^{-3}\ =\ e^{-7log\lambda}}$

$\&\ \ \{\boldsymbol{n=-6}\}\ \ \boldsymbol{\omega\ \ gives},\ \ \boldsymbol{\lambda^{-6}\ =\ e^{-14\ log\lambda}}$

$\boldsymbol{entropy\ S}\,\{\boldsymbol{n=-9}\},\ \ \boldsymbol{k^9\ =\ e^{-21log\lambda}}\ \&\ \ \boldsymbol{S-dot\ \equiv\ \frac{dS}{dt}}\ \sim\ k^{11}\ =\ e^{-\frac{77}{3}log\lambda}\qquad \boldsymbol{etc}$

It would be appropriate here to state some results & tabulate some fundamental measuring rods applicable in general & also related here to our local scheme, where we take Planck's [h] and allow it to be our –ve mass &/or gravity pixel as discussed previously.

$$Say\ \ [h] = e^{log}K = [a] = -ve\ m$$

$$Thus\ Force = m.a\ \ is\ gamma\ [\gamma] = [m.h] = m.e^{logK}$$

$$Then\ \ [h^2] = e^{2log}K = [a^2] = -ve\ m.-ve\ m = omega\ [\omega] = -ve\ gamma$$

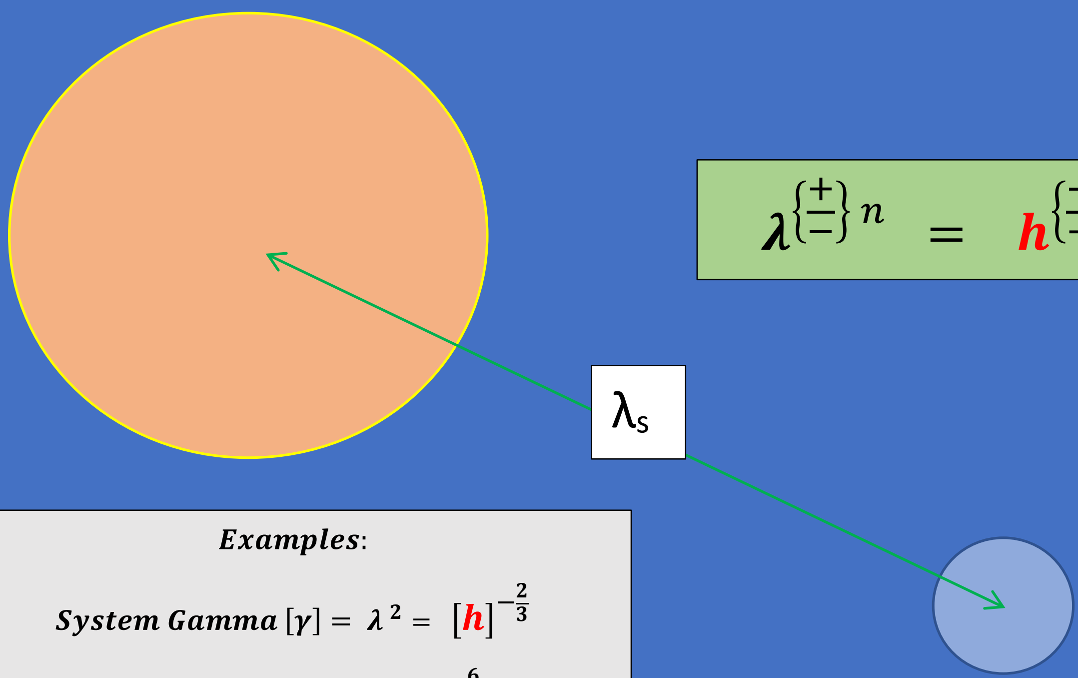
$$[h^3] = e^{3log}K = [a^3] = -ve\ m.-ve\ m.-ve\ m = entropy\ [S]$$

It appears we have a quantized scheme, with integer aspect, we can use further shorthand at this stage & allow for integer ratios, or fractions, useful to people who spin & delve into the Standard particle Worlds perhaps.

Newton's [G] is our local k-number, so

$[k] = h^{\left\{\frac{1}{3}\right\}}$ ***, thus lambda*** $[\lambda] = h^{-\left\{\frac{1}{3}\right\}}$ ***& we employ the integer lambda model philosophy or 'rules'.***

Fig 6. *Quantized* General Lambda scheme



$$\lambda^{\left\{\begin{matrix}+\\-\end{matrix}\right\}n} = h^{\left\{\begin{matrix}-\\+\end{matrix}\right\}\frac{n}{3}}$$

Examples:

$$System\ Gamma\ [\gamma] = \lambda^{2} = [h]^{-\frac{2}{3}}$$

$$System\ omega\ [\omega] = \lambda^{-6} = [h]^{\frac{6}{3}} = [h]^2$$

$$System\ Moment\ of\ Inertia\ [I] = [m.\gamma] = lambda^7$$

$$I = [h]^{-\frac{7}{3}}$$

$$System\ Entropy\ [S] = lambda^{-9}$$

$$S = [h]^{\frac{9}{3}} = [h]^3$$

$$System\ Planck\ unit\ [h] = \frac{1}{\lambda^3}$$

Locally circa 10^{-33}

$Note: coincidence\ pegs\ on\ the\ Unity\ wheel\ \&\ suggestive\ of\ evolved\ or\ emergence\ paradigms\ w.r.t.\ gravity, omega\ \&\ entropy$

$$\omega \equiv \left[\frac{k}{m}\right] \equiv a^2 \quad or\ equivalently \quad [k - dot]^2 = \ [k.k - dd]\ 'sits\ on\ (c.w.)\ \ k^6\ peg$$

$$is\ after\ +1\ cycle,\ \ coincident\ with$$

$$\{c.w.]\ \ k^{22}\ peg, \qquad or, \qquad [S - dot]^2 \ \equiv \left[S\ .\ \frac{d^2S}{dt^2}\right]$$

Dante Virgil & the Elektrik Apple by Matagouri 2018 ⌘

In proud memory of Frances O Sullivan,… 'and you smile up at us Eternally.'

Appendix 2: Generik & basic Map of Key points

$$the\ idea\ here\ is\ to\ show\ inherent\ cyclicity\ of\ the\ positive\ kind, \quad i.e. re-affirming\ the\ model.$$

$$We\ start\ with\ the\ basic\ model\ Gamma\ variant, and\ allow$$

$$dot\ operator\ \&\ -ve\ operator\ x\ [n]-times, as\ it\ suits\ our\ model\ views.$$

$$-ve\ \ [m\ .m-dot]\ =\ 1 \qquad\qquad equation\ 1.$$

Now we say the –ve Operator can translate under an effect, call it a Platonik 'omega' across, either of the couplet or product mass x energy, & inclusive of the frequency [-dot] operator which is reciprocal gamma, and this in turn can act on either of the mass subjects in product [m.m] to derive [m.m]-dot expanded to {2} states which may seem to be conventionally redundant thro commutation or association laws in Math, ie.

[m-dot . m] + [m . m-do t] . Inclusion of –ve operation here, is equivalent of course to equation 1.

But we state that the –ve can also apply to the frequeny. The dynamic fluxions that arise, are due in a sense to this fluidity inherent in this model.

In modulus terms the –ve Operator is equivalent to a multiplication by reciprocal gamma^4,

& it also has phase aspects common & familiar in Complex numbers, say the Imaginary & Real Unit circle diagram. i.e

$$\frac{1}{\gamma^4} = \frac{1}{\lambda^8} = \ k^8\ = \{c.w\}\ phase\ rotation\ by \frac{1}{2} cycle$$

Now we are ready to apply this set of rules and mix & match results, we need to be wary of phase as often a {c.w} parameter can sit in coincidence withan [a.c.w} parameter, thus 'equalities' need to be examined carefully, especially so at the Unit-λ circle case, so ¾ cycle [c.w] (is coincident with) [a.c.w] ¼ cycle.

Thus it seems, $\quad$ *{c.w}* $\ k^{12}\ =\ \lambda^4\ $ *{a.c.w}*

$$or, \qquad \omega^2\ =\ p\ ,$$

$$or, \qquad \frac{d^2E}{dt^2}\ =\ p$$

$$or, \qquad k.\frac{dS}{dt}\ =\ p$$

Multiple cases may compete, but these are readily resolved with closer inspection & model rules that apply to

all Lambda schemes, Not = Unity.

We can derive $(1.a)\ -vem\ .m-dot\ =\ 1\ = \frac{m}{m}$

as –ve energy = reciprocal mass, also -ve mass = acceleration, so minimal Algebra later

$$-vem\ .m\ .m-dot\ =\ m \qquad then, as\ gamma = -[m.m], we\ have\quad \gamma.m-dot = m, \qquad or\ model\ Einstein$$

thus the familiar version of (1) say

(1.b) $\qquad a\ .e\ =\ 1$

$$which\ is\ a\ royal\ \ key\ to\ de-cypher\ most\ everything\ that\ exists, or\ can\ \ exist?\ in\ Physikle\ Lambda\ Systems.$$

Appendix 3: Planck's Black body Law applied to the general lambda scheme.

The usual assumptions apply & we call general Intensity [I]

Re: Intensity $[I] = \frac{8\pi v^2}{c^3} \cdot \frac{hv}{e^{\left[\frac{hv}{KT}\right]}-1}$

We get, $I\,[\,1 - e^{\left[\frac{hv}{KT}\right]}] = -\frac{8\pi hv^3}{c^3}$

$Now,\quad e^{\left[\frac{hv}{KT}\right]} = e^{\left[-\frac{m-dot}{fT}\right]} = e^{\left[-\frac{m}{T}\right]} = e^{k^{15}} = e^{\omega S}$

Also, $-\frac{8\pi hv^3}{c^3}$ ***become,*** $\frac{-ve.-ve\ \omega.m}{-ve\ m\ .p}$

Then $-ve.\ \frac{\omega m}{\lambda}$ ***= -ve frequency {-ve f} = E-'field'***

So $I\,[\,1\text{-}\ e^{\omega S}] = E = \frac{1}{mm} = k^{10}$

$$e^{\omega S} = 1 - \frac{E}{I}$$

$$\omega S = ln\left[1 - \frac{E}{I}\right]$$

$$= \left\{\frac{7}{3}\right\} Log\left[1 - \frac{E}{I}\right]$$

$$\omega S = e^{\left\{\frac{7}{3}\right\} Log\left[1 - \frac{E}{I}\right]}$$

$$S = m.\lambda\, e^{\left\{\frac{7}{3}\right\} Log\left[1 - \frac{E}{I}\right]}$$

$$e^{\left\{\frac{7}{3}\right\} Log\left[1 - \frac{E}{I}\right]} = k^{15}$$

$$e^{-\left\{\frac{7}{3}\right\} Log\left[1 - \frac{E}{I}\right]} = \lambda^{15}$$

$$-\left\{\frac{7}{3}\right\} Log\left[1 - \frac{E}{I}\right] = 15\, ln\, \lambda = 15.\left\{\frac{7}{3}\right\} Log\, \lambda$$

$$-\frac{1}{15}\left[1 - \frac{E}{I}\right] = \lambda$$

$\left[\frac{E}{I} - 1\right] = 15.\lambda \quad so,\quad I = \frac{E}{[15\lambda + 1]}\ \ ignoring\ factors\ 15$ & 1 ***we get*** $I = \frac{E}{\lambda} = Ek = S - dot$

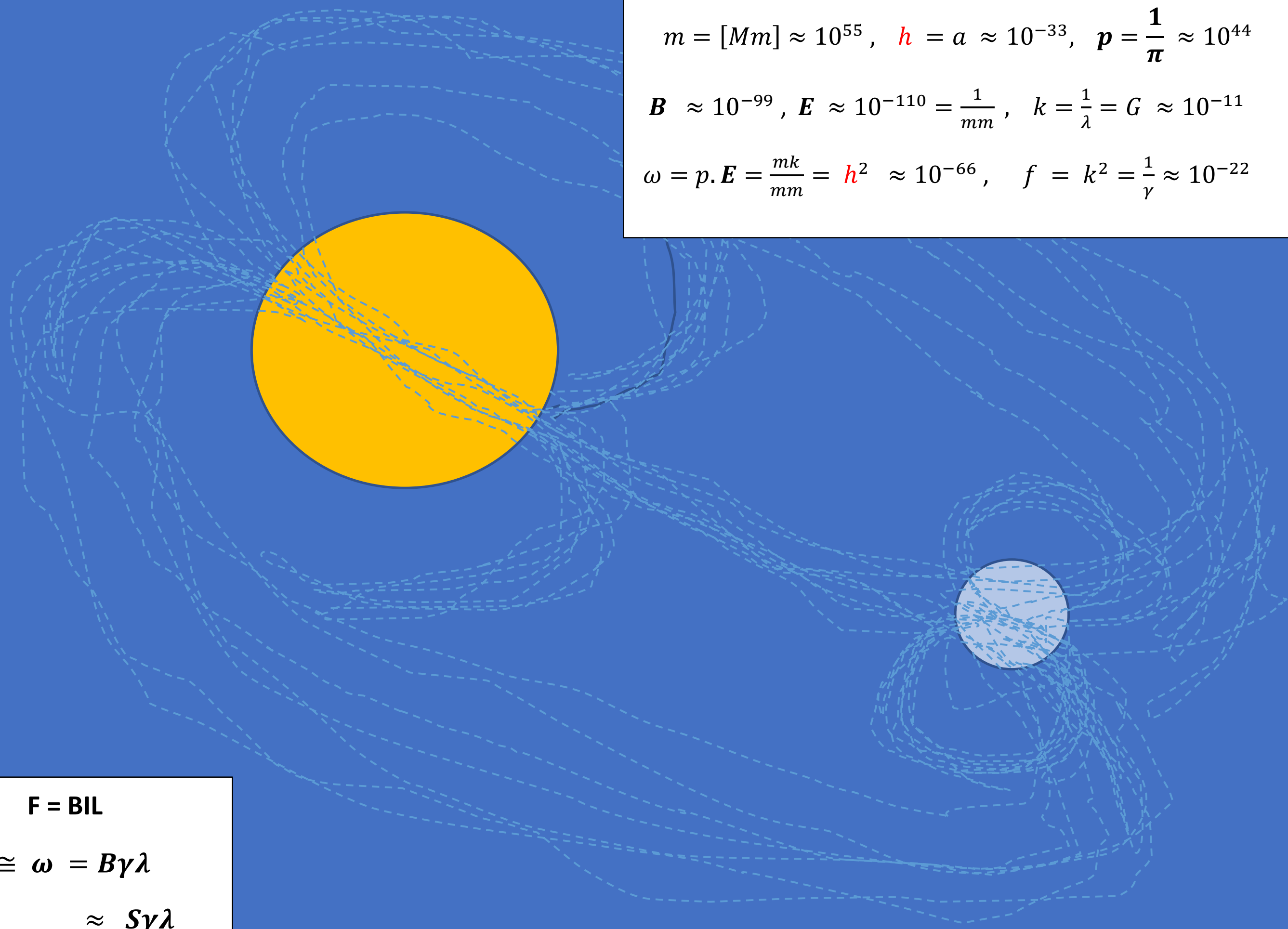
Or the (local) Spectral signature of CMB $Intensity$ ***is possibly***? ***with shades of Faraday.***

$$\frac{dS}{dt} = k^{11} = \Lambda \quad Einstein's\ C.C.$$

$$m = [Mm] \approx 10^{55}\,,\quad h = a \approx 10^{-33},\quad \boldsymbol{p} = \frac{\mathbf{1}}{\boldsymbol{\pi}} \approx 10^{44}$$

$$\boldsymbol{B} \approx 10^{-99}\,,\ \boldsymbol{E} \approx 10^{-110} = \frac{1}{mm}\,,\quad k = \frac{1}{\lambda} = G \approx 10^{-11}$$

$$\omega = p.\boldsymbol{E} = \frac{mk}{mm} = h^2 \approx 10^{-66}\,,\quad f = k^2 = \frac{1}{\gamma} \approx 10^{-22}$$



F = BIL

$$\cong \boldsymbol{\omega} = \boldsymbol{B\gamma\lambda}$$

$$\approx \boldsymbol{S\gamma\lambda}$$

Fig. 7 The Elektrik Apple ⌘

Faraday's System: +Maxwell's Laws + Einstein's Lambda + Newton's G + Planck's [*h*] + entropy S

$$-\frac{dB}{dt} = \nabla X E \approx -ve\,\dot{S} = -\Lambda$$

$$S = h^3 = a.a.a\,,\quad \frac{dS}{dt} = \dot{S} = a.a.a - dot$$

$$= a.a.\frac{1}{m}$$

$$= \frac{\omega}{m} = \frac{k}{mm} = h^2.h - dot = \omega.-ve\ e$$

$$\dot{S} = kE \quad variant \quad E = cB \quad or \quad E = GS = G.h^3$$

& nuanced In modulus terms here, Current I is a *Force* & *Omega*

$$[-F] = [BIL] = [S\gamma\lambda]$$

$$[-.-F] = [S\omega\lambda] \quad as \quad \omega = -ve\,\gamma \quad \& \quad \omega = m.\frac{dB}{dt} + e.B$$

Mpdel Standard

$$\omega = [mS] - dot = \{e.S \leftarrow (+) \rightarrow m.\frac{dS}{dt}\}$$

$$\frac{\omega}{m} = \frac{dS}{dt} \quad \& \quad \frac{\omega}{e} = S$$

$$\frac{k}{mm} = kE = \frac{dB}{dt} \quad \& \quad \pi = mB$$

$$E = kB = Gh^3 \quad \& \quad \omega = \pi - dot$$

$$k^{10} = \omega - dd = d^2\omega/dt^2 = E$$

$$or \quad \omega = pE = mk/mm$$

$$\omega = [p.\omega] - dd$$

$$= p - dd.\omega + p - dot.\omega - dot + p.\omega - dd$$

Fig: 8 Faraday's elektrik model System *Analogy* **& Classical language equivalence &/or model parlance**

System charge [q] = mk, -ve charge = [-q] = -ve[mk] = -vem.k {+} m.-vek **momentum [p] & -ve [p] = 1/[p] = π**

System current [I] = dq/dt and –ve [I] = -dq/dt gives **dp/dt =[F] & -dp/dt = [- F]**

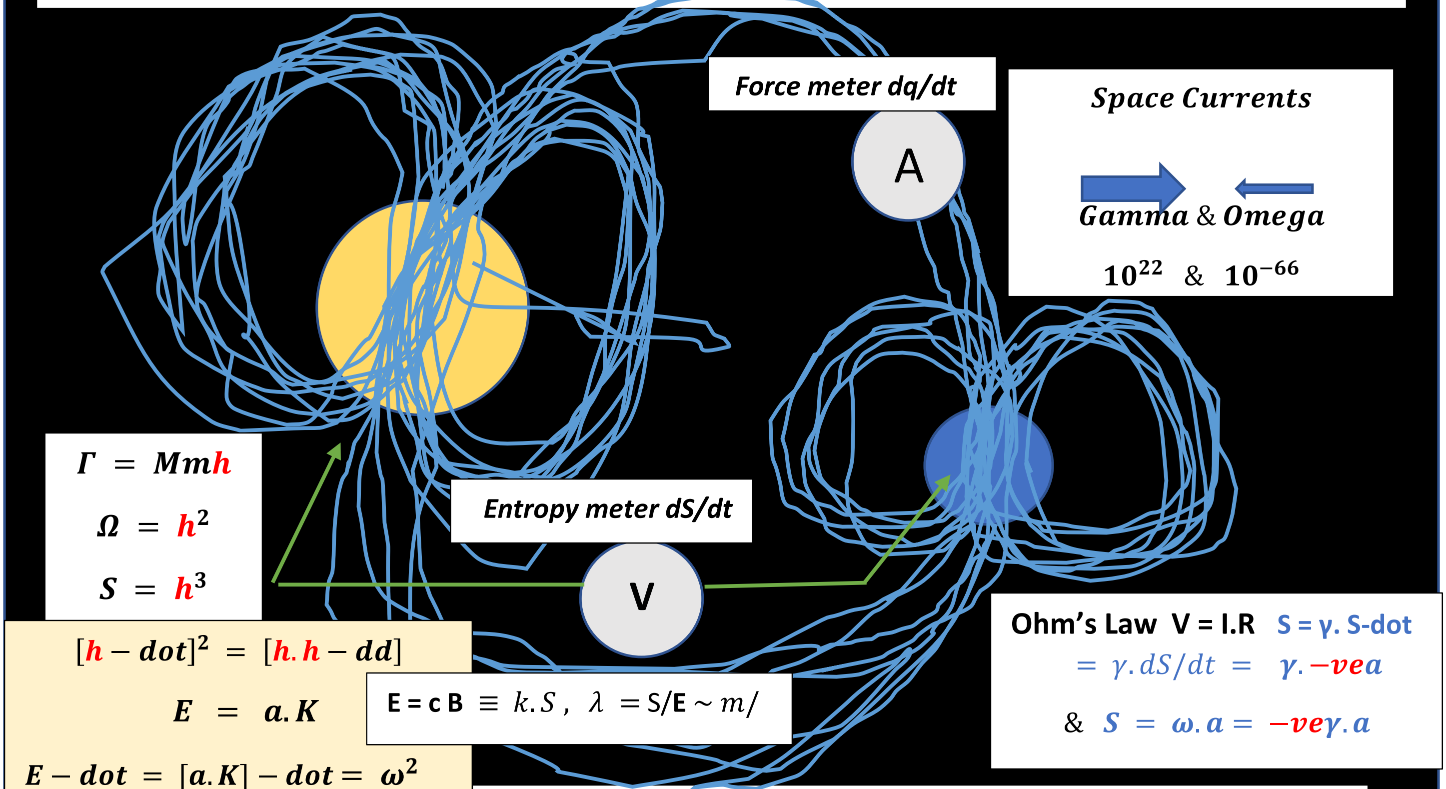
[I] = [mk/γ] = [m.k]-dot = [m-dot.k {+} m.k-dot] **gamma [γ] Force [F]**

2 states [e/λ + m.a]

-ve[I] = -ve[m.k-dot] = [-vem-dot .k {+} -vem.k-dot {+} [m.dot.-vek {+} m.-vek-dot]

-ve gamma, -ve force = [-F] = Omega [ω] [4-states]

$$[\quad \frac{k}{m} \quad + \quad a^2 \quad + \quad \frac{dm}{dt}.S \quad + \quad m.\frac{dS}{dt} \quad]$$



F = BIL $\left\{\frac{-}{+}\right\}\gamma \equiv \left\{\frac{\omega}{\gamma}\right\} = B.[\frac{\gamma}{\omega}].\lambda \equiv S.[\frac{\gamma}{\omega}].\lambda$ *read: {+} γ = gamma, & {-} γ = Omega*

-dB/dt = ∇ X E $-ve\ S - dot = -ve\ k.E, \quad \frac{dS}{dt} = kE = \frac{dB}{dt}$ E =kB =cB =kS

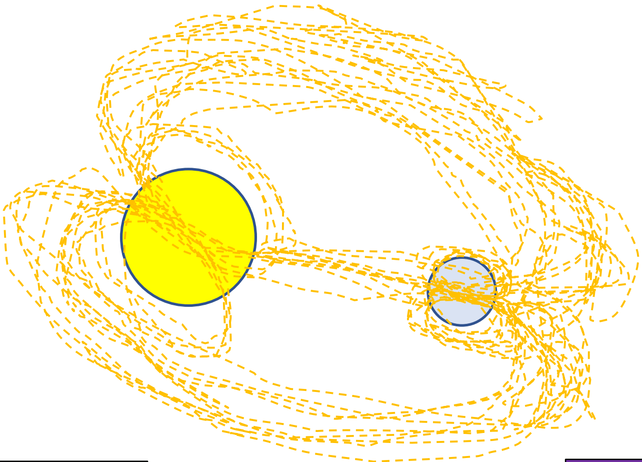
$\nabla^2 E = \frac{1}{c^2}\frac{d^2E}{dt^2} \equiv E - dot = \gamma.E - dd \equiv \omega^2 = \gamma.K^2$ *thus* $\omega = \lambda.K$ = λ.h-dd

F = q[E + vXB] (+/-} [γ] = [{+/-} {m.k} . [1/mm (+) -ve[kB]]] ≡ $\left\{\frac{\gamma}{\omega}\right\}$ read: γ *or* ω

What we can glean from this is, that language or terminology can enforce barriers due to historical scale influence perspectives. Thus phenomena of one discipline may seem unique & different to other phenomena although the same underlying Physik is at work, just the magnitudes relative to scale seem to indicate wildly different aspect.

All religions are 1, yet everywhere the ceremony of innocence is drowned.

e.g $B \equiv S$, $\omega^2 \equiv \frac{dE}{dt}$, $c \equiv k \equiv G$ *in our local binary scheme, also* $a = h$



$$-ve\,mass = gravity \quad -m = a = h$$

$$-ve\,energy = rate\ of\ acceleration$$

$$-ve\frac{dm}{dt} = \frac{da}{dt} = h - dot$$

$$-ve\,lambda = Hooke\ constant\ [K]$$

$$-ve\,k = Entropy\ [S], \qquad -ve\,gravity = dS/dt$$

$$-ve\,da/dt = d^2S/dt^2$$

$\omega - dot$ | $h.h - dot = -ve\,1$ | $\frac{d\omega}{dt}$

Fig 9: Tesla-view –ve *Force = model Omega*

$$\frac{dB}{dt} = -ve\,[a] \equiv -ve[h] \qquad -\frac{dB}{dt} = -ve.-ve\,[h] \quad = -ve.-ve.-ve\,[m]$$

Maxwell's Faraday Law $\quad -\frac{dB}{dt} = \nabla X E$

or $\ -ve.-ve\ h \ = -ve\ k\ .\ E$ *letting **[X] = -ve** Operator, also –ve k =**B**, & **E** =1/mm*

$$then, -ve.-ve.-ve\,[m] \quad = \frac{B}{mm} \quad or \quad [-m.-m.-m] = B = a^3 = [h]^3$$

The wave eqn $\quad \nabla^2\,E = \mu 0.\varepsilon 0\,\frac{d^2\,E}{dt^2}$

can become, letting $[\mu 0.\varepsilon 0] = \frac{1}{k^2} = \lambda^2 = \gamma \quad \& \quad \nabla = k,\ so,\ \nabla^2 = \frac{1}{\lambda^2} = \frac{1}{\gamma} = \frac{d}{dt}$

Equivalently $\frac{dE}{dt} = \gamma.\frac{d^2\,E}{dt^2}$ *or,* $E - dot = \gamma\,.E - dd$

$Which\ is\ a\ standard\ form\ in\ this\ model, then\ equivalently\ a\ la\ mode$

$\omega^2 = \gamma.K^2$ then $\sqrt{\omega^2} = \sqrt{\gamma}.\sqrt{K^2}$ or ω = λ. K also standard.

$We\ can\ differentiate\ both\ sides\ by\ gamma, i.e.\ apply\ sucessively\frac{1}{\gamma^n}$

$$E - \{n\}dot = \gamma\,.\ E - \{n+1\} - dot$$

{n=2} E=dd = $\gamma.E = ddd$ a la mode we have

$$K^2 = \gamma.\ \omega E$$

So, $taking\ square\ roots \quad K = \lambda\,.a\,.\frac{1}{m}$ & as –ve energy = reciprocal mass we get

K = lambda . [-ve m . -ve m-dot]

= λ . ω-dot

Or Hooke [K] = -ve λ

Cycling an iterative gamma yields rich classical pickings, is this Platonik Nature at root?

We can look more critically at known familiars

Say $c = \lambda.f$ this can be found trivially in $\lambda - dot \ = \gamma.\lambda - dd$

$$c = k = \frac{lambda}{gamma} = lambda - dot \quad \& \quad [\lambda - dot]^2 = \lambda.\lambda - dd = \gamma.\pi = \gamma/p$$

$$\& \, from\ this\ we\ can\ get\ p.k^2 = gamma = \frac{e}{\lambda} = p.f \quad familiar\ as\ \frac{dp}{dt} = F$$

But we return to the general principle here, with familiar dummy parameter [$]

$$[\$] - \{n\}dot = \gamma.\ [\$] - \{n+1\}dot$$

Example: use mass [m], and add comments, starting at {n=0}

{n = 0} m = γ. m-dot model Einstein & *Action: mass = energy x time,* $h \geq \nabla E.\nabla t$

{n = 1} m-dot = γ. m-dd or *Energy & Work = Force x distance*

{n = 2} m-dd = γ. m-ddd lambda = $\pi.mass$ **De Broglie variant λ = m/p**

{n = 3 } m-ddd = γ. m-dddd

ωm = γ. -ve mass

& as –ve m = [h] = {k-dot} = a , & -ve gamma = omega

We get, ω = k/m & *omega x energy = gravity*

& as ω-dot = -ve 1 we also get the new model dispersion relationship

[acceleration x energy] = Unity

It is clear we have struck on a rich vein, similar exercises are available for other parameters of course.

The Omega example $[k - dot]\text{\^{}}2 = k.k - dd$ **& above variant interpretation of these 2nd order identities. We derive several identities &/or dispersion relationships to explore & comment.**

k = γ. k-dot trivial? yet we derive 1/λ = [γ. –ve m] Unity $\{1\} = -ve[I.\lambda]$ **I =[mγ] moment of Inertia**

k-dot = γ. k-dd gives –vem = [γ . -ve m-dot]can yield familiar model identity $-ve\ m.m - dot = 1$

k-dd = γ. k-dd gives, 1/m = γωk then, $1 = \omega\, m\lambda$

k-ddd = γ. k-dddd gives, ω.k = γ. -ve k then ω = γλS = λK = [mS]-dot

these results suggest local & geometric bubble time are present in lambda systems.

Composite adjacent & nested system 'time bubbles are also expected but this is increasingly non-local.
In general System dynamics, effects & phenomenon, it is the local time that is dominant & locally relevant.
The Composite bubble/s {t} is mutually systems inclusive, not a Genesis baseline or datum arrow phenomenon.

$$-ve\; mass, \quad -ve\; m = a = [h]\; local\; 'binary'\; System$$

$$-ve\; energy, \quad -vem - dot = -ve\frac{dm}{dt} = a - dot = \frac{da}{dt} = \frac{1}{m}$$

$$-ve\; lambda, \quad -vem - dd = a - dd = \frac{d^2a}{dt^2} = \frac{1}{m\gamma}$$

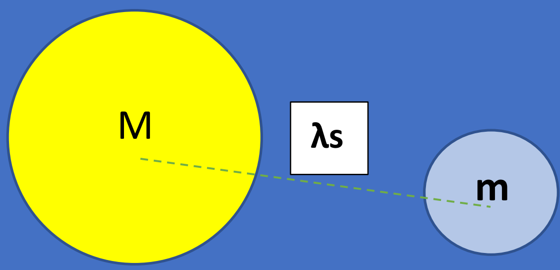
$$= Hooke\; [K]$$

$$-vem - ddd = -ve\omega m = [K - dot] = entropy\; [S]$$

$$-ve.-ve\; mass = -ve\; acc = S - dot$$

$$or - ve\frac{dm}{dt} = \frac{dS}{dt}$$

Fig. 10 : New model Force Law



$$[-ve[m.m - dot] = 1]\ ?$$

$$Newtonian\; U.L.G.\; \&\; Force\; F = G\frac{Mm}{r^2}$$

$$F = ma \qquad N.2.\,law$$

$$equivalent\; Model\; force\; is\; 'gamma'\; \gamma = [m.k] - dot$$

$$= m - dot\,.\,k \quad \leftrightarrow (+) \quad \leftrightarrow \quad m\,.\,k - dot$$

[2] superposition states = { energy . 1/lambda} ↔(+) ↔ {mass . gravity}

U.L.G (+) *N.2.L*

$$[-dot]\; operator = \frac{1}{\gamma} \sim \frac{d}{dt}$$

$$G = \frac{1}{\lambda} = k, \qquad \frac{1}{r^2} = \frac{1}{\lambda^2} = \frac{1}{\gamma} = [-dot]\,, \qquad [Mm] = System\; mass\; [m]$$

$$energy = \frac{dm}{dt} = m - dot\,, \qquad gravity = \frac{dk}{dt} = k - dot = -vem - dot$$

Newton's 3rd Law in the model, '*every action has equal & opposite reaction*'.

In this model **mass [m]** ≡ **Action [S],** we generally leave off ***[S]*** as it is easily confused with entropy. Then Re-action = **-ve mass**, this is also acceleration/gravity in our model. Thus the product combination of mass & it's re-action mass

Gives model variant on N.2.L. γ-force **γ = [mass x –ve mass]** or

$$\gamma = -vem.m$$

We also extend this model mass i.e. Action-Reaction principle to be qualitatively a variant on a generalized *Mach principle*, and allow for any force, **[F**] we can have a **–ve**[F] the resultant of which creates a balanced equilibrium state , ***zero net F***. This condition gives us the system Omega, which allows dynamic systems such as Planetary schemes & atoms to perpetuate or prevail. The –ve sign could be our conventional bias for **–ve F**, or Conservative acting [**c.m.s.]** .

system Omega **[ω]s = -ve[γ]s** ***–ve system force***

so from previous **ω** = **-ve[m.k]-dot**gives 4-states in Super-position

ω =[{ -vem .k-dot} ←+→{-vem-dot .k} ←+→{ m.-vek-dot } ←+→ {m-dot. –vek }]

We point out here –ve mass is equivalent to [k-dot] & Planck [h] in our local binary.

Thus enhanced *model variant Gamma* to→ Omega Law *A Richer dust concealed.*

$$-ve[\,\{-ve[m.m - dot]\,\}\,] = -ve\,[1] \equiv \omega - dot$$

ωe normally 'observe' only the inner bracket, i.e. the { -ve[m.m-dot] = Unity} ~ F law

As conventionally 'we' *cancel off* one –ve sign both-sides.

We look further into the possibilities inherent in the nested model variant gamma within the Omega expression on previous page.

$$-ve[\{-ve[m.m-dot]\}] = -ve\,[1]$$

We may push this view into the Photo-electric equation,

$$E = hv - \phi$$

*It is conventional to see the l.h.s. as kinetic energy nominally **+ve** energy.*

*Here we might allow some latitude, i.e. we see **–ve** mass & potentially **-ve** energy wherever we see Planck [**h**] feature in this/any equation, & we allow a new model interpretation of the work function **Phi**.*

Say then a first pass model view the Photo-elektrik equation

$$E \quad = \quad hv \quad - \phi$$

$$-ve/\ +ve\ energy \ = \ -ve\ energy \leftarrow (+) \rightarrow -ve.-ve\ energy$$

Where we say the' potential' of the [2] sign state l.h.s, can be realised by the [2] possible states on r.h.s.

We can rewrite this as, $\frac{-ve}{+ve}\ m - dot \ = \ \frac{1}{m} \leftarrow (+) \rightarrow \frac{-1}{m}$

$$Where, \quad +ve\ m - dot = -\frac{1}{m}, \quad or\ in\ conventional\ plain\ speak,$$

$$energy, \quad m - dot\ , \quad \frac{dm}{dt} = -ve\ \frac{da}{dt}$$

$$Then\ also, \quad -ve\ m - dot \ = \frac{1}{m} \quad or\ similarly,$$

$$negative\ \ energy, \quad -ve\ m - dot, \quad -ve\frac{dm}{dt} = \frac{da}{dt}$$

$$Thus\ local\ energy\ states\ are\ in\ step\ with\ local\ gravity\ conditions\ \&\ they\ are\ mutually\ interactive\ \&\ dynamic.$$

$$We\ can\ invoke\ entropy\ \frac{\&}{or}\ entaxy, \quad i.e.\ go\ a\ step\ further\ into\ richer\ complexity\ \ noting\ in\ this\ model$$

$$[a = -ve\ mass]\ \ \&\ -ve[a] \ = \ -ve.-ve\ mass = dS/dt.$$

$$Thus, \quad energy, \quad \frac{dm}{dt} = -ve.-ev\frac{dm}{dt} = \frac{d^2S}{dt^2}$$

$$\&\ \ negative\ energy, \quad -ve\frac{dm}{dt} = -ve\ \frac{d^2S}{dt^2}$$

Where we invoke the bothwise wheel Fig1.p1 such that positive energy is represented ny [acw] $lambda^3$, is coincident

On the k^{13} peg 'rate of rate' of entropy, S-dd, & similarly for the negative energy identity, we arrive at reciprocal mass or da/dt peg [c.w.] k^5 .

It would seem whatever parameter we choose to measure has 2 possible paths +/- 1 [2π] cycle, and these possibilities as experienced on a non-unit lambda wheel have textual significance, in effect we have conglomerate states or emergent phenomena underpinning our previous fixed parameter classical notions

We could enrich this further and apply ever increasing scaffolding layers to build or synthesise greater complexity in systems, say evolve our new Photo-elektrik equation to encompass extra model parameters. i.e convert

$$\frac{-ve}{+ve}\ m - dot \quad = \frac{1}{m} \leftarrow (+) \rightarrow \frac{-1}{m}$$

To become,

$$\frac{-ve}{+ve}\ m - dot \quad = \frac{\lambda}{m.\lambda} \quad \leftarrow (+) \rightarrow \frac{-\lambda}{m\lambda}$$

Allowing the introduction of omega $[\omega] = \frac{1}{m.\lambda}$ $thro\ allowing\ a\ \ seemingly\ trivial\ or\ benign$

$[lambda/lambda]\ product\ on\ rhs$

This trick or technique has multiple forms say introduce gamma to get a view on Hooke [K] = $1/m\gamma$

$$\frac{-ve}{+ve}\ m - dot \quad = \frac{\gamma}{m.\nu} \leftarrow (+) \rightarrow \frac{-\gamma}{m.\gamma}$$

Although given, these are somewhat trivial it does allow us to build a picture of an iterative self-regulating λ-system at work on itself,

& underlines the model view that historic classical cancelations, may mask deeper aspects within Physics, good example being the cancellation or negation of mass in some Physics, Planetary schemes, pendulums [shm] etc,this may have led unwittingly to a view that systems of zero mass are viable .

The Physikle model rejects this approach & Philosophy, & plumbs for underlying realism, ironically we gain mass for the photon, because we support Einstein's et al, view of a Platonic reality underpinning the Quantum World of Bohr & co.

Return to the Introduced omega equation above & we transpose the denominator lambda from r.h.s. to l.h.s, gives

$$\frac{-ve}{+ve}[\ m.\lambda] - dot \quad = \frac{\lambda}{m.} \quad \leftarrow (+) \rightarrow \frac{-\lambda}{m}$$

This is a variant on –ve momentum = system pi & associated paths on the wheel.

I suspect this view can aid our understanding of the paradoxical conundrums in the 2-slit experiment. At base here we have a system Omega which contains <u>nested within</u>, the system gamma, previously our classical , F-law N2L, now with added motive power. Now we might allow 'we are unconcerned which slit/path a dynamic system or electron travels thro/across', as we know the scheme has inate ability to self evolve & transition between lesser & greater aspects of particulate (massy) & wavy phenomenon, i.e. it seemingly 'interferes with itself' to follow the conventional jargon, allowing seemingly constructive & destructive phase developments as part of an inherent omega system at work, providing self-resonance of cyklik phenomenal aspects of the system, under its own scaled clock rate, set in essence by it's lambda parameters, such as mass & length. ref Fig 1 p.1. and following variant Omega eqn.

$$\frac{-ve}{+ve}[\ m.k] - dot \quad = \frac{1}{m.\lambda} \leftarrow (+) \rightarrow \frac{-1}{m\lambda}$$

Gives in shorthand $-ve\ [\gamma] \quad = \frac{1}{m.\lambda} = \omega \quad\quad means\ [c.w]½\ cycle\ from\ \lambda^2\ to\ [k^6]$ &

+ve [γ] $= \frac{-1}{m\lambda} =$ *-ve* $\omega \quad means\ \ [c.w]½\ cycle\ from\ [k^6] to\ [k^{14}]$ *i.e.*

$Hooke\ [K]^2 coincident\ \pm 1\ full\ cycle\ \ 'back\ to'\ \gamma - peg\ @\ lambda^2.$

We note that magic-eye detectors only ever see the single electron at <u>one or other</u> slit <u>never both, at the same instant of time</u>.

*It seems unlikely to me that a snapshot could ever reveal 'simultaneously' the same electron at 2 separated points in space**.*

That is not a problem as dispersive wavy screen 'target 'phenomenon can result from the system Omega alone, it is the underlying dynamic of the scheme. The Omega is set by the physicality of the system under inspection, derived from the 'hot' source &/or 'smoking elektron'-gun. We can imagine the system is trundling along in omegik states of +ve & -ve Action , i.e. +ve/-ve mass, leads to +ve & -ve energy, with +ve &-ve acc/gravity, each is a push-pull on it's complimentary pair-ing.

*****The Phenomenon of Quantum non locality effects, entanglement, etc, must be recording a deeper aspect of the model omega, set in the k-cycle, as we note magnetism effects can be observed /experienced beyond the atomic scale, deeper phenomenon probably have supra atomic range/s.***

The kinetic electron has more to offer than the parabolic trajectory, it is a melange or ensemble of mutually supporting states.

A measurement now represents nothing more than a frozen snapshot of one of these variant possible states in a system under cyclic Omega, i.e. it is of course inherently probabilistic thro our given model Super-imposed states, yet a measurement will always discover an underlying 'hidden variable state'. Individual electrons will still smear a wavy trail across the screen, over time, in essence a brick by brick build up of what occurs for big numbers or a multiple stream or shower of elestrons from a suitable source.

Quantum scale systems exemplify this highly dynamic underlying scheme most, as the omega & entropy of such systems have very large magnitude due to very small mass & primarily small lambda.

Our large scale systems display classically conserved or steady-state characteristics for the opposing scale reasons of low omega & [S].

This model insists on scale invariance of course, yet it remains a familiar aspect reflective of lambda scale that allows an historically resonant view, to perpetuate in latter day Modern Physics, certainly post 1905. *Now,...the Paradigm Shifts*

⌘ Small systems look like Big bang, & large schemes feel Steady-state. ⌘

⌘ However they don't always or necessarily infer causality, connection or temporal evolution, it can be the case, many of these systems are largely independent, like 'Bee's swarming in Nothing!'
'... Honey Bee come build your home in the house of the Stare' ⌘

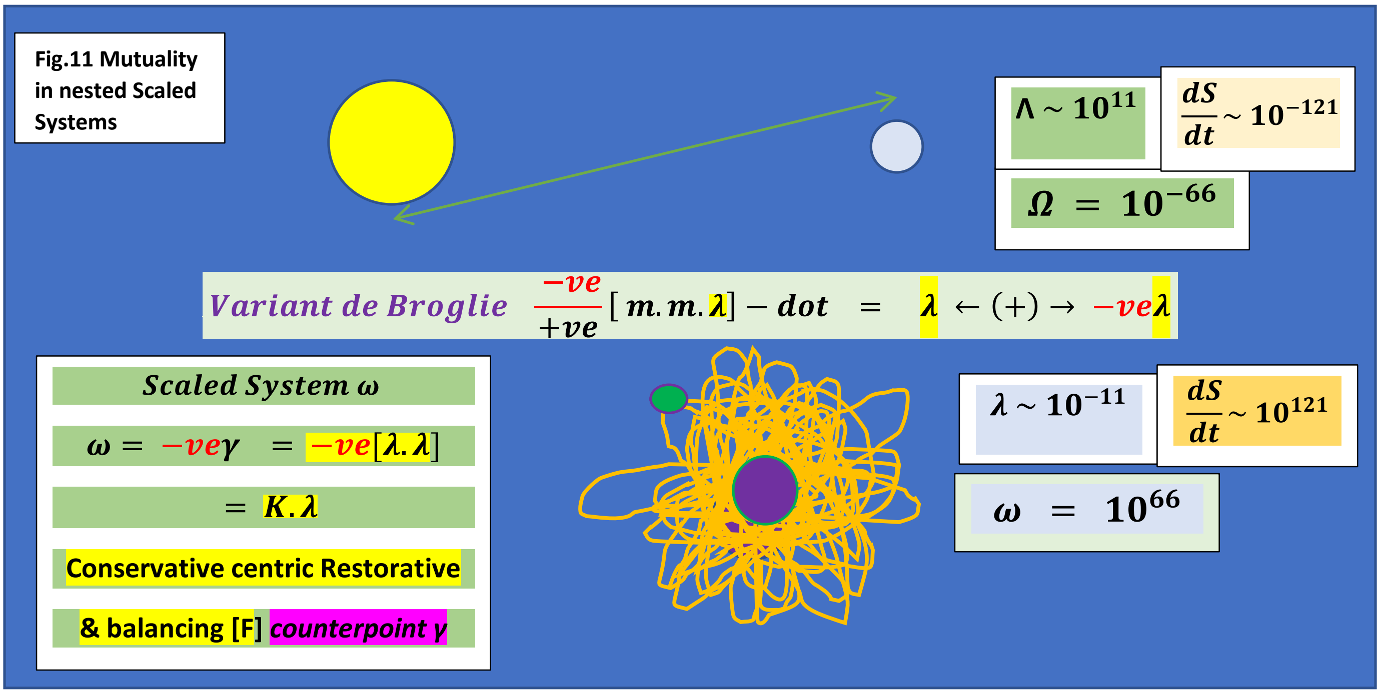


Fig.11 Mutuality in nested Scaled Systems

Till Homer's ghost came whispering to my mind.
He said: I made the Iliad from such
A local row. Gods make their own importance.

Conclusions & Summary of the broad points:

Firstly It is clear the Veritas identity is in essence a serendipitous guess at perhaps an underlying, yet of course always present Platonic view of System gamma &/or omega expression, leading ultimately to a self-consistent & Greater generic lambda model view.

The Gamma or Omega take is dependent on such aspects as [h] represents +ve / -ve mass & likewise multiple sign combinations for the other parameters such as lambda, frequency (2) or pi = 1/p in the Veritas, it is exceptionally fecund, if we allow full model scope.

A striking aspect of this model is the equality view for the magnitude of Planck's constant [h] and our local scheme gravity pixel λ-dd = [a], i.e. quantization of gravity in the model. Gravity acceleration is an -ve mass concept employed, so in this sense it is also a local quantization of mass. All System parameters can be uniquely & integer quantized once we observe or fix the local pixel magnitude see fig.5 p.25.

This gives rise to an heretical aspect of the model i.e. the hypothesis that the photon is not massless, potentially it has -ve mass circa, magnitude [h]. The model allows for this, such that on the wheel, λ^4 = momentum [p] = [m.k], where a typical photonic lambda say Sodium 589nm is circa 10^{-6} m thus [k] = 10^6, can yield a magnitude for [m.k] $\sim 10^{-24}$ circa the nuclear mass .

$Energy\ =\ lambda^3$ *aligns well for the standard E=hv model etc, where $[\nu]\ =\ f\ =\ k^2\quad circa\ 10^{12}$, thus we view the photon as an exotic atom of -ve mass in highly dynamic fluxions producing all the standard parameters we expect.*

Thus we can predict it's $local\ gravity\ =\ [k^3]\ =\ 10^{18} --- 10^{20}$ say, the omega as we say for small schemes is circa $10^{36}\ - 10^{39}$, & note that is circa the familiar ratio [Fe/Fg].

The other related major assumption in the Lambda model Hypothesis is the idea of scale invariance.

This leads rather directly to a model statement that there are No Universal constants in Nature,... only System no.s.

It is also evident that -ve gamma force yields a system omega, with enhanced gravitational qualities, which assist a current view on the emergent properties paradigms. Example this [ω] qualitatively dominates the relatively prosaic classical & standard 2nd order force expression, by introducing entropy & entropy-rate, acting in product with energy & mass respectively.

In other words modelled omega is not 'negative or anti- gravity' it is enhanced or augmented gravity.

Therefore we present a new expansive Gravity model in Nature, which may help to explain some current anomalies.

Thus w.r.t. the Galactic rotation curves problems, we may not need hidden mass &/or energy, but allow for the metrik density view,

system gamma ~ [ρ] $\propto\ 1/r^3$, is our model M.O.N.D. aspect. + proposed photon mass. and along with the Omega allows augmented additional 'gravity-effects'.

This -ve operator is model mode, i.e. double negatives, do not cancel out in a conventional math sense,

but act in tandem to doubly embed the [c.w.] phase phenomenon.

Different system numbers for large & especially smaller 'mutual' or emergence sub-systems, say as example

' nested' Atomik schemes, may give rise to many & varied 'false dopplers', in multiple other schemes.

We cannot simply apply our local yardstiks as Universal, but must employ re-calibrations to locally sourced time & length measures, etc.

Atomic spektra may seem shifted, red & blue, but this too may not necessarily be Isotropikly or otherwise troo.

On the locally Macro scale the C.MB. may also be viewed as a localised phenomenon, such that the tandem [-ve] steps on Temperature could represent the very low magnitude temp~ [3K[observed within the noise spectrum.

Other lambda schemes may herald local selection effects, which may be? discernible even from a neighbouring planetary body.

What Temp is the CMB from the Martian surface, how Old does the Universe look from the red planet.

Is it possible to tell or discern anomalies at such a nearby location,? The metric density model may offset differing [Mm] by new De Broglie, we may need to look at other Solar systems.

Initial o.o.m. calculations suggest that Gaussian mass distribution allows all Planets to have same order or so Gmma approx. 10^{20}

Entropy is seen in a new light within the model. [We don't assume a casal curve exists from B.B. scenario to {t} = now.}

Entropy in the model is qualitatively scale dependent, and the disorder paradigm has been nuanced to reflect an Entaxy mode or view, whereby classical order [S-State] characteristics may result in Large lambda schemes, & the early? chaotic state called a Big bang! may be mostly relevant as representative albeit separate case paradigm for highly energetic small lambda schemes, etc.

The B-field is mooted as entropy [S] for a micro-lambda scheme,

or quantum atomic scale system.

Entropy rate dS/dt is seen as −ve a $\equiv$ $-ve. -ve$ $mass$*, at* $[k^{11}]$ *or* $[\, \boldsymbol{G^{11}}\,] \sim 10^{-121}$*, which aligns with estimates for*

Einsteins's Cosmological constant Λ.

This is dimensionally 11 lambda orders 'down in the mix, local scheme' & could also be a contender for dark energy perhaps.

The lambda model is offered as a physikly plausible system/s & possible antidote to amongst other aspects,

the Plethora of 'Multiverse/s' & related schemes. Thus accommodating richness of variety & much diversity in a self-consistent logical structure that does not require, bold Philosophical view/s exemplified by generic statements, often imparted so as to be taken up quite literally!, & of the form,

$\text{'}\boldsymbol{everythingness\ possible\ that\ could\ be\ true}, \ldots \boldsymbol{must\ be\ true}\ \&\ \boldsymbol{must\ be\ so}!\text{'}.$

The fine tuning argument may be resolved as simply extant resonance conditions of integer aspect within each system thus Anthropocentrism is of necessity our local & parochial view.

& What of the rood of time?

It appears that time is indeed System relative & it is fundamentally Physikle! ie

dynamik & systemikly Geometrik.

What we perceive as time-flow is differential ageing, i.e. differing resonance beats of multiple naturally variant system clocks.

It is plausible here, there is no background clock, there may not even be, a background, back-ground,..

just a rich interlaced symphony or euphony of essentially separated, yet, often mutual systems, existing as ' bubbles of time '

forcefully ticking along, unique resonance & multiples of subtle assonance, cheek by Jowl, jn a harmony of Worlds view.

& as far as we can tell? we inhabit just One of these, … potentially the best of all possible Worlds.

To see a World in a grain of sand or a Heaven in a wild flower,.. hold infinity in the palm of your hand & eternity for an hour. W.Blake.

Caveat: The Author, makes no claim to special or expert knowledge in the fields discussed in this paper.

Rather I would be an itinerant 'Natural Philospher', an ongoing student of Physik, forever in awe & appreciation of the many gifts we receive,

thro the bountiful Action of the Great Spirit in Nature. Matagouri 20 March 2019 Also my latin is worse than my Greek, which is zero don't be fooled.

$"\,Sero\ te\ amavi, pulchritudo\ tam\ antiqua\ et\ tam\ nova, sero\ te\ amavi!\ et\ ecce\ intus\ eras\ et\ ego\ foris, et\ ibi\ te\ quaerebam."$

$St. Augustine\ -\ Confessions\ (c. 397)$

The Wave equation answers all.

$$\nabla^2[\psi] = \frac{1}{c^2}\frac{d^2[\psi]}{dt}$$

Here we allow that $c = [k]number, = 1-dimensional\ del\ [\nabla] = \frac{d}{d\lambda},\ also\ \frac{1}{k^2} \equiv [\gamma\ ]\ gamma,\ thus$

$$\nabla^2\ [\psi] = \gamma\ \frac{d^2[\psi]}{dt^2}$$

$becomes\ via$

$$k^2\ [\psi] = \frac{d}{d\gamma}[\psi] = \nabla^2\ [\psi]$$

the model wave equation: $[\psi]-dot = \gamma.[\psi]-dd$

$Psi\ can\ take\ any\ classical\ parameter\ form, \quad say\ mass\ [m]\quad then,$

$$m-dot = \gamma.m-dd$$

$this\ translates\ as\ 'System'$

$energy = gamma\ \ x\ lambda$

$\&\ thus\ one\ gamma\ integral\ \int m-dot.d\gamma\ \ gives\ model\ Einstein\ \ m = \gamma.m-dot\ \ mass = \gamma.\frac{dm}{dt}\ \ 'action'$

$likewise\ insert\ Reaction\ or\ -ve\ action, \quad i.e.-ve\ mass\ = a$

$$gives, \quad -ve\ m-dot = \gamma.-ve m-dd \quad or \quad a = \gamma.K = \frac{\gamma}{m\gamma} = \frac{1}{m} \equiv a-dot$$

$$thus\ -ve[m.m-dot] = Unity, \quad \&\ -ve[m.m] = gamma$$

$$also\ \ -ve\ m-dot = -ve\gamma.m-dd$$

$$= \omega.\frac{d^2m}{dt^2} = \omega.\lambda = \frac{1}{m}\ \ thus\ \omega m\lambda = Unity$$

$Thus\ mass\ as\ source\ gives\ rise\ to\ a\ wave\ equation\ governing\ the\ dynamic, massy\ waves.$

$Look\ again\ at\ Newton's\ U.L.G.\ thro$

$$\nabla^2\ [\psi] = \gamma\ \frac{d^2[\psi]}{dt^2} \quad thus\ \ G^2.Mm = F.\frac{[Mm]}{\gamma^2}$$

$letting\ system\ [k] \equiv G \quad \&\ [\psi] = Binary\ mass\ [Mm], \quad \&\ [\gamma]'as\ suits' \equiv F\ \frac{\&}{or} \equiv t$

So, $G^2\ Mm = \gamma.\left[\frac{Mm}{p}\right] = \gamma.\lambda = [Mm]-dot\ \ i.e. system\ energy, simply\ transpose\ the\ gamma\ \&\ remember\ G = \frac{1}{lambda} = 1/r$

$$Then\ \ \frac{GMm}{r^2} = F \quad Therefore\ we\ see\ the\ U.L.G. was\ a\ mass-wave\ equation\ all\ along.$$

$$\&\ as\ \frac{G}{r^2} = \frac{1}{r^3} \equiv \frac{1}{\lambda^3} = a \equiv [h]$$

$We\ have\ a\ good\ reason\ to\ believe\ we\ have\ a\ quantum\ gravity\ wave\ eqn\ to\ boot, albeit\ the\ quantum\ [h]$

$is\ in\ fact\ just\ a\ label\ for\ -ve\ mass, \quad i.e.-ve[Mm]\ as\ gravity\ [a]\ or\ reaction\ in\ our\ local\ scheme.$

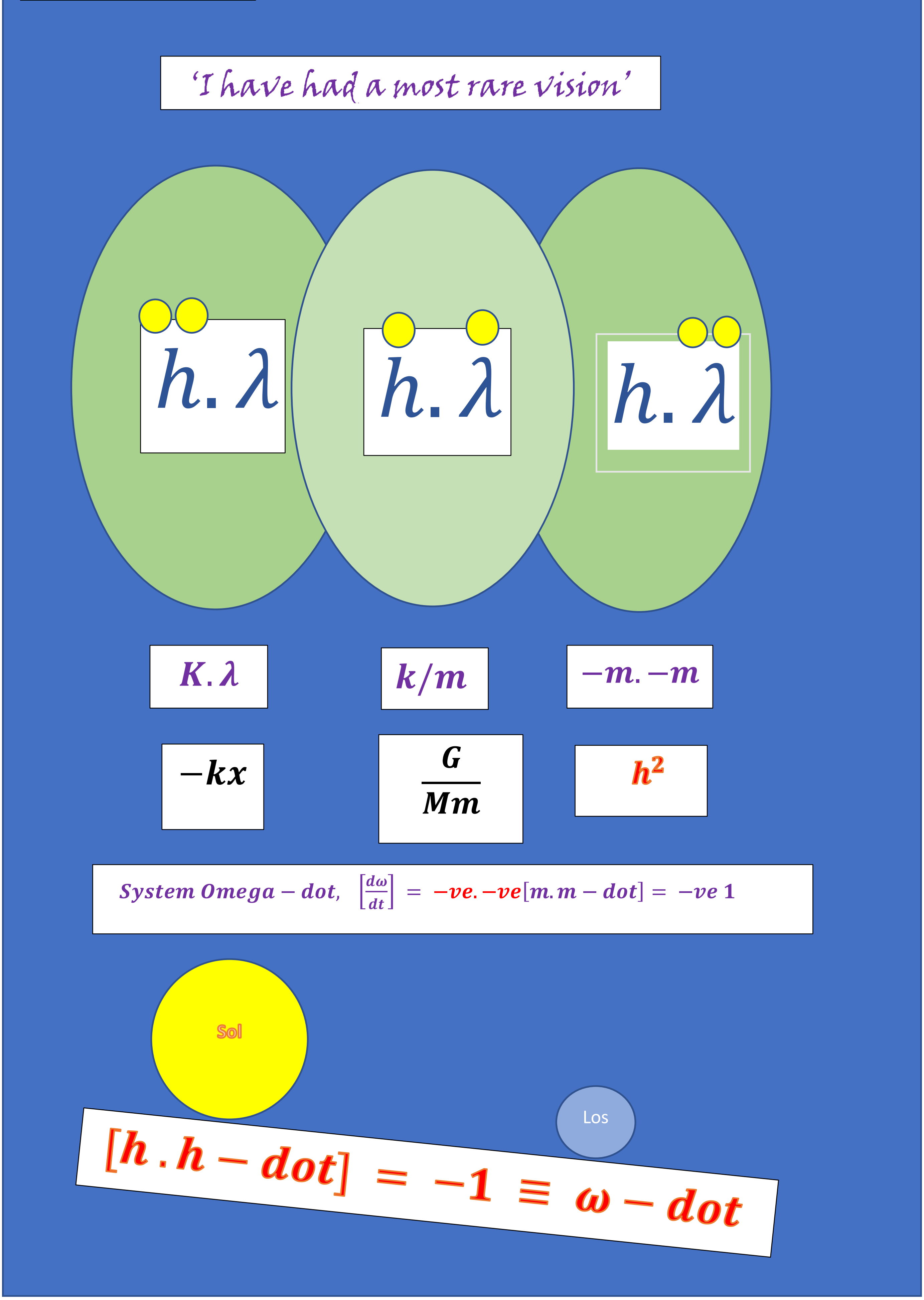
We can derive the Dirac, de Broglie Schrodinger etc by similar means, and the w.eqn as seen thro the model lens can yield a **Helholtz** eqn model variant $\boldsymbol{\omega.E = 1}$

$$i.e.\ \ c.w.[k^6]\ \ x\ \ c.w.[k^{10}] = [k^{16}] = unity\ or\ 1\ c.w. full\ rotation$$

Similarly a second model Helmholtz, as **E =cB**, for the entropy **[S] as [B]** paradigm, $\boldsymbol{K.S = 1}$

$$or\ [k^7\ ]x\ [k^9] = 1\ full\ c.w. phase\ rotation$$

Fig:12. **Die drei Vöaelchen**



A step back, from p.42 ***The Graviton Hypothesis within the model***

A *Wiki* estimate for a graviton

10^{-59}	8.9×10^{-59} kg	Graviton, upper limit on mass [2]

Which is circa 10^-58.

We may use our model identity for our local graviton,

$$[h-dot]^2 \equiv [h.h-dd]$$

Which is, equivalently $$E = a.K$$

or, $$\frac{1}{mm} = [-vem.-ve\lambda], \quad where,\ [h-dot]^2 = [-ve\ e]^2 \equiv \frac{1}{m}.\frac{1}{m}$$

& from that our graviton 'mass' estimate

$$= \frac{1}{m}\ locally = \frac{1}{[Mm]} = 10^{-55} \quad \&\ circa\ the\ above\ estimate.$$

The standard Compton wavelength $$\lambda = \frac{h}{mc}$$

& this model allows –ve parameters in general.

But as we freely acknowledge the gravity pixel [h] is equivalent to –ve mass, we can justify -ve lambda

Thus model Variant –ve Compton $$-ve\lambda = \frac{-ve\ m}{m.k} = \left[\frac{h}{MmG}\right]$$

$$= \left[\frac{h}{p}\right] = [10^{-33}/10^{44}] = 10^{-77}$$

where we substituted [c] = system [k] = [G] locally

Then, a la mode $$K = -ve\ \lambda$$

i.e. the –ve Compton wavelength is equivalent to the Hooke constant here, thus we could set a dimensional bound of magnitude for our putative local system model graviton particle ,

$$[K] \equiv [k]^7 = 10^{-77}$$

thus our virtually massless partikle is intuitively & practically of zero dimension,

but critically for our model philosophy always non – zero.

in short 'singularities are non physikle'.

<u>The Cheats Guide &/or going the momentum route</u>. *We see that momentum* ***[p]*** *and it's emanation,* ***–ve [p]*** *is the most symetrik pairing on our Complex wheel* ***Fig;1 p.1***.

-ve [p] *we call system* ***[π]***. *Momentum & pi align with* ***[I]*** *&* ***[-I]*** *respectively on the wheel.*

Classically $\boldsymbol{p} \ = \ \boldsymbol{mv}$, *we let velocity* $\equiv$ *any generic system [*$\boldsymbol{k}$*] number in our scheme view,*

then as $\boldsymbol{v} \ = \frac{dx}{dt}$, *we say* $\boldsymbol{k} \ = \ \frac{\lambda}{\gamma} \ = \frac{1}{\lambda}$, *etc.*

Thus $\boldsymbol{p} \ = \ [\boldsymbol{m.k}]$, ***but we allow for a commutative acting gamma 'time' operator***

Or $\ \boldsymbol{p} \ = \ [\boldsymbol{mass.lambda}] - \boldsymbol{dot}$

$$\boldsymbol{Gives}\ [2] - \boldsymbol{state\ momentum}, \qquad \boldsymbol{p} \ = \ \boldsymbol{m - dot\,.\lambda} \ \leftrightarrow (+) \ \leftrightarrow \ \boldsymbol{m.\lambda - dot}$$

$$\boldsymbol{p} \ = \ [\ \{\boldsymbol{energy.Lambda}\} \ \leftrightarrow \ (+) \ \leftrightarrow \ \{\boldsymbol{mass\,.velocity}\}\ ]$$

$$\boldsymbol{p} \ = \ [\,\{\boldsymbol{e.\lambda}\} \ + \ \{\frac{\boldsymbol{m}}{\boldsymbol{\lambda}}\}\ ]$$

$$\boldsymbol{Thus}\ [\boldsymbol{\pi}] \ -\boldsymbol{ve}\ [\boldsymbol{p}] \ \ \equiv \ -\boldsymbol{ve}[\boldsymbol{m.\lambda}] - \boldsymbol{dot}$$

$$\boldsymbol{Gives}\,[4] - \boldsymbol{states}\ [\ \{-\boldsymbol{vem - dot\,.\lambda}\} \leftrightarrow \ (+) \leftrightarrow \ \{-\boldsymbol{vem\,.\lambda - dot}\} \leftrightarrow \ (+) \leftrightarrow \{\boldsymbol{m - dot\,.-ve\lambda}\} \leftrightarrow \ (+) \leftrightarrow \{\boldsymbol{m\,.-ve\lambda - dot}\}\ ]$$

$$\boldsymbol{\Pi} \ = \ [\ \{\frac{\boldsymbol{\lambda}}{\boldsymbol{m}}\} \ + \{\boldsymbol{a.k}\} \ + \{\,\boldsymbol{e.K}\} \ + \{\boldsymbol{mS}\}\,]$$

as, $\boldsymbol{p} = [\frac{m}{\lambda}\}$ ***& it's –ve sense,*** $-\boldsymbol{ve}[\boldsymbol{p}] = \ -\boldsymbol{ve}\left\{\frac{m}{\lambda}\right\} \ \equiv \ \boldsymbol{\pi} \ = \{\frac{\lambda}{m}\}$ ***we can say they possess a Super-Symetry of sorts.***

Whence we derive a system gamma $\left[\ \left\{\frac{m}{\lambda}\right\}.-\left\{\frac{m}{\lambda}\right\}\ \right] = -\left[\frac{mm}{\lambda^2}\right] \ = -\left[\frac{mm}{\gamma}\right]$

$$= \ -\boldsymbol{ve}[\boldsymbol{m.m - dot}] = \boldsymbol{1} \ \equiv \ [\left\{\frac{m}{\lambda}\right\}.\left\{\frac{\lambda}{m}\right\}]$$

$$[\,-\boldsymbol{m\,.m}\,] \ = \ \boldsymbol{\gamma} \ \ = [\frac{dp}{dt}]$$

$$\boldsymbol{then - ve}\left[\frac{dp}{dt}\right] = \ -\boldsymbol{ve.-ve}[\boldsymbol{m.m}] = \ \boldsymbol{\omega} \ \equiv \ -\boldsymbol{ve}[\boldsymbol{\gamma}]$$

seemingly [2] flavours $[\,\{\boldsymbol{m.}\frac{dS}{dt}\} \ + \ \{\boldsymbol{a^2}\}\,]$ ***which can reveal further depth & forms, with redundancies***

$$\boldsymbol{Omega}\ [\omega] \ = \ [\ \{\,\boldsymbol{K.\lambda}\,\} + \left\{\frac{\boldsymbol{k}}{\boldsymbol{m}}\right\} + \{\,\boldsymbol{a^2}\,\} + \{\,\boldsymbol{e.S}\} + \left\{\boldsymbol{m.}\frac{\boldsymbol{dS}}{\boldsymbol{dt}}\right\} + \left\{\boldsymbol{m.}\frac{\boldsymbol{d^2\,K}}{\boldsymbol{dt^2}}\right] + \left\{\boldsymbol{e.}\frac{\boldsymbol{dK}}{\boldsymbol{dt}}\right\}]$$

We see [p] & [pi] as Super Symmetrik, gamma & Omega as skew symmetric,

S-S is restored by the next $\left[\frac{1}{\gamma}\right] \sim \frac{d}{dt}$ ***or dot Operator***

$$\boldsymbol{i.e.} \quad \boldsymbol{\omega - dot} \ = \ -\boldsymbol{ve\ 1} \ \equiv \ -\boldsymbol{ve\gamma - dot,\ as} \ \ \frac{1}{\omega - dot} \ \sim \ \boldsymbol{\omega - dot}$$

$$\boldsymbol{or\ a.c.w.}[\boldsymbol{\gamma^4}] \sim \ \boldsymbol{c.w.}\left[\frac{\boldsymbol{1}}{\boldsymbol{\gamma^4}}\right] \ \boldsymbol{both\,reside\,at - ve\ 1\ a.c.w}\ [\boldsymbol{\lambda^8}] \sim \ \boldsymbol{c.w.}\ [\boldsymbol{k^8}]\ \boldsymbol{on\ wheel}$$

$$\boldsymbol{The\ next\ dot\ leaves\ us\ skew\ again\ at}\ \ \boldsymbol{\omega - dd} \ = \ -\boldsymbol{ve\ 1/\gamma} \ = \ -\boldsymbol{ve\ f} \ = \boldsymbol{1/mm} \ = \ \boldsymbol{E -'\,field'} \ \sim \ \boldsymbol{c.w.}[\boldsymbol{k^{10}}]$$

$$\boldsymbol{One\ more - dot\ gives}\ [\boldsymbol{\omega - ddd}] \ \equiv \ \boldsymbol{\omega^2} = \boldsymbol{E - dot} = \boldsymbol{k^{12}} \ \ \boldsymbol{Symmetrik}$$

$$\boldsymbol{Once\ more\ Skew\ symmetrik}\ [\boldsymbol{SKS}], \qquad [\boldsymbol{\omega.\omega}] - \boldsymbol{dot} = \ -\boldsymbol{ve}\ [\boldsymbol{\omega}] \ \ = \frac{\boldsymbol{d^2E}}{\boldsymbol{dt^2}} \ \ \equiv \ [\boldsymbol{K^2}\,] = \ \boldsymbol{c.w.}[\boldsymbol{k^{14}}\,]$$

$$\boldsymbol{Once\ again\ Symmetry\ at\ Unity\ c.w.}[\boldsymbol{k^{16}}]\ \&\ \boldsymbol{a.c.w.}[\boldsymbol{\lambda^{16}}] = [\boldsymbol{1}]$$

$$[h\,.h-dot]\ =\ -1\ \equiv\ \omega-dot$$

$$1\ step\ dot-differentiate\ by\ gamma,\frac{d}{dt}=\frac{1}{\gamma}$$

$$[h-dot]^2\ \equiv\ [h\,.h-dd]\ =[-1-dot]=-\frac{1}{\gamma}=-ve\,f\ \equiv\ \omega-dd$$

$$[-ve\ e]^2\ \equiv\ [\ a\,.K\ ]\ =-ve\left[\frac{1}{\gamma}\right]\ \equiv\pi.\omega$$

$$E\ \equiv\ \frac{1}{mm}\ =\ -ve\ f\ =\ [a.K]\ \equiv\ [h.K]$$

Thus $E-dot\ =\ [h.K]-dot$ connects Maxwell, Newton, Planck, Galileo, Hooke, Hertz, Einstein & Boltzmann + our model Unity standard, -ve[m.m-dot] = 1

a variant E-field eqn is implicated in the gravity energy dispersion relationship

$$a\,.e\ =\ 1\ =\ m\,.-ve\ e$$

$From\ the\ classical\ eqn\ \ E\ =\ cB,\ \ we\ allow\ the\ model\ equality\ B\ \equiv S\ \ thus\ \ E=kB=kS$

$Then,\quad E\ =\ [h.h-dd]=\ kS\,,\qquad then\quad S\ =\ \lambda.E\quad or\ \ a\,variant\ De\ Broglie\ from\ \lambda\ =\frac{S}{E}$

$$=\frac{mm}{mp}\sim\frac{m}{p},$$

$$thus,-ve\ De\ Broglie\ \ -ve\lambda\ =-\frac{m}{p}\ =\ \frac{h}{p}\ =\ [K]\ \ yields\ Hooke\ constant.$$

$$Also,\qquad mK\ =\ f\quad frequency,\&\ \ hK\ =\ E-'field'$$

We can trace gravity [a], or Planck [h] as a system self cyclic iterative scheme

$$h\ =a\qquad h-dot\ =\ a-dot\qquad h-dd\ \ =\ \ a-dd$$

$$\omega.h\ \ =\ a-ddd\ =\ K-dot\ =\frac{dK}{dt}\ \equiv\ \ Entropy\ \ [S]\ =\ \omega.a$$

$$h-dddd\ \ =\ \frac{d^4a}{dt^4}\ \ =\ [\omega.h]-dot\ =\ -ve\ [a]\leftrightarrow(+)\leftrightarrow\omega.-ve[\ e]$$

$$=\frac{dS}{dt}=\text{Entropy rate}\ \ \equiv\ k^{11}$$

$$\text{Thus,}\ \ \frac{d^2S}{dt^2}\ \ =\ [\omega.h]-dd\ \ =\ -ve\ e\ (+)\ \omega.K$$

$$\text{Then,}\ \ \left[\frac{dS}{dt}\right]^2\ =\ S.\left[\frac{d^2S}{dt^2}\right]\ \equiv\ \ k^{13}$$

$We\ can$ unpack $[h-dot]^2\ \equiv\ \ [h\,.h-dd]$ $to\ reveal\ self\ iterative\ actions\ in\ Nature$

$$[k-dd]^2\ =\ [k-dot.k-ddd]\ \ or\ \left[\frac{1}{m}\right]^2\ \ =\ [a.\omega.k]=\ \omega.[k.k-dot]\ \ =\ -ve[k^2]$$

$or\ straight\ forwardly$ $[a-dot]^2=a.[a-dd]$,

$$means\ Maxwell\ [E-M\ Laws]\ 'discovered'\ \left[\frac{da}{dt}\right]\ \ 'gravity-rate'\ phenomena$$

$which\ is\ resonannt\ of\ G.R.\&\ Cosmology\ \&\ somewhat\ more\ classical\ \left[\frac{da}{dt}\right]^2\ =\ a.\frac{d^2a}{dt^2}\ \equiv a.K$

$$\&\ thus\ entropy-rate$$

$\frac{dS}{dt}\ \ \equiv-ve[a]\ \ allows\ us\ to\ potentially\ include\ Boltzmann's\ work,as\ 'emergence'\ phenomenon.$